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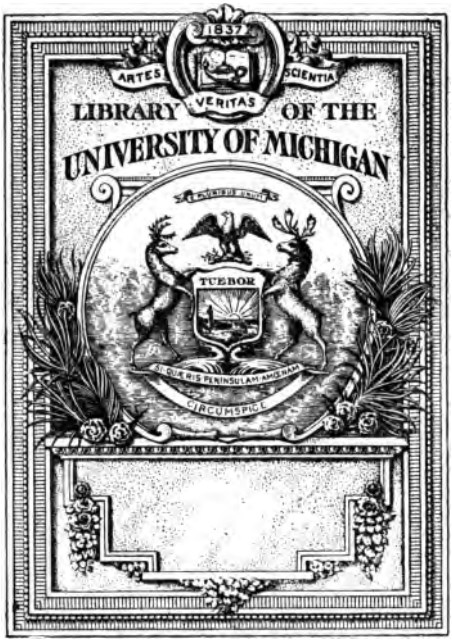
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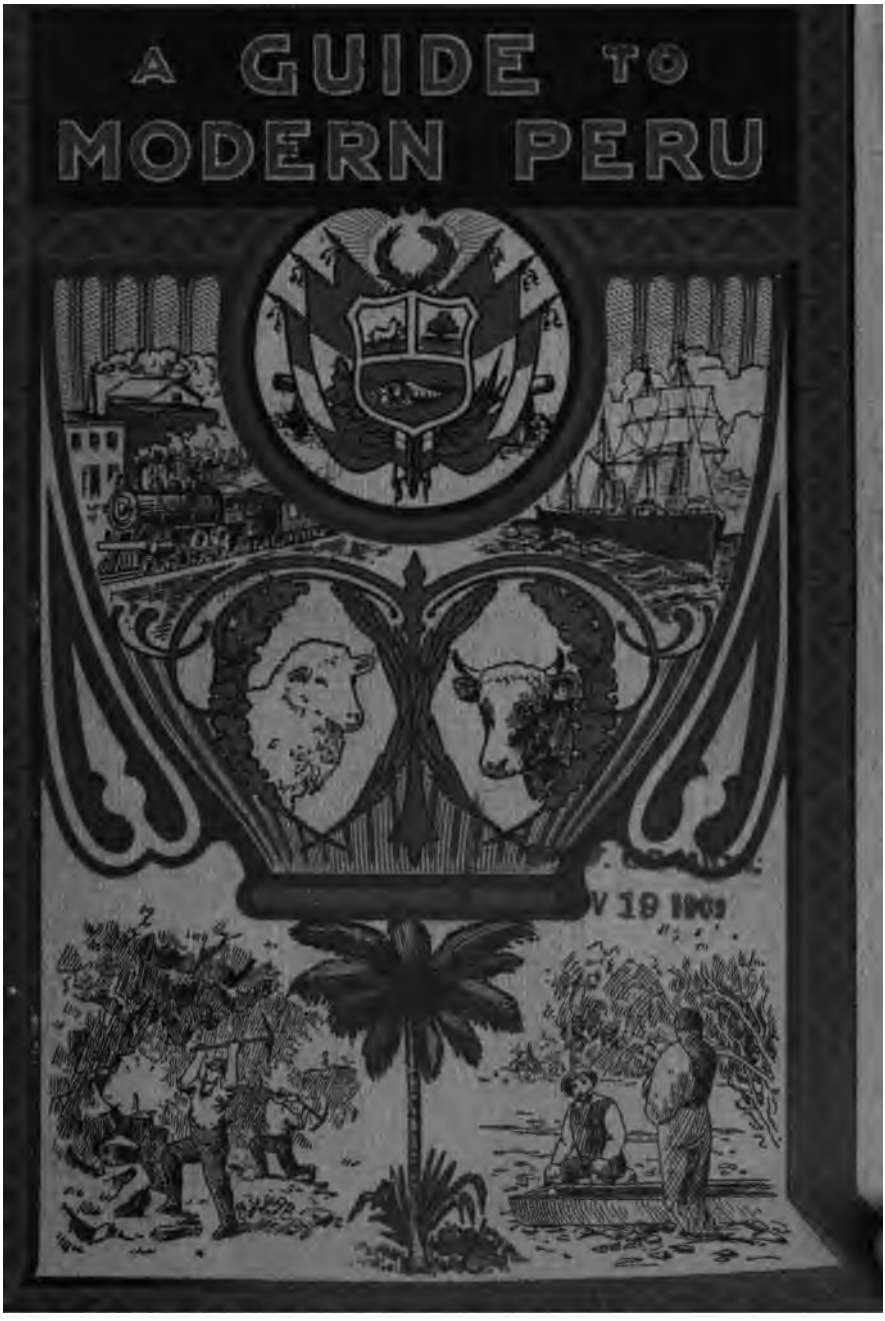
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A Guide To Modern Peru

Its Great Advantages and Vast Opportunities



By A. de CLAIRMONT, M. D.
Consul of Peru
TOLEDO, OHIO

1908

PREFACE.

The writer is indebted to Collier's Weekly, for matter from a series of excellent articles which appeared in that magazine during November and December, on South America, by Arthur Ruhl; and to the Rev. F. E. Clark, writing on the coast of South America, in the Los Angeles Times of April.

The Official matter has been translated from the booklets published by authority of the Peruvian Department.

For the new matter that is given in this third edition of "A Guide to Modern Peru," the writer wishes to thank, particularly, senor Don Alejandro Garland, for matter contained in his publications, "Resena Industrial and El Peru 1906," published on behalf of the Ministry of State of Peru.

The writer returned last October from his fifth annual trip to Peru and found a great many changes and wonderful progress exhibited in the country. In the first place, the steamer Quillota left the City of Callao with a full passenger list, carrying several notables on board. Amongst the passengers, were found for the first time in the history of travel in that country, a party of Cook's tourists, consisting of a dozen persons, in which were represented two millionaires, Dr. Nicholas Senn, a United States Army Surgeon, and that genial traveler and army physician, Dr. Louis Seaman. Both these gentle-

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men were very enthusiastic in regard to Peru. Dr. Seaman visiting all the hospitals along the coast, spending his time with the different boards of health and giving them advice in a friendly manner, for which the local profession was very thankful.

Dr. Seaman is a most observing traveler and the author of various books of great interest on his travels. During the Russo-Japanese war, he faced the heat of battle, saw frightful carnage and slaughter; faced thousands of bullets without the madness of firing back, incident to warfare simply to study the field results of modern arms in the interest of medical science and Uncle Sam.

Prof. Todd, his wife and charming daughter were also passengers returning from Arequipa, together with their pet telescope, which must have been a source of constant trouble to them in traveling, as it is 18 inches in diameter, and with which the noted astronomer took over seven thousand photographs of Mars during its recent opposition. The wonderful and clear climate of Peru lending itself to this sort of work to great advantage. Prof. Todd is an enthusiast in his profession, having defrayed the costs of this trip and numerous expenses out of his own pocket for the benefit of science. They expressed themselves so delighted with Peru that they intend to return in the near future.

The writer wishes to call personal attention to the wonderful resources of Peru from his personal knowledge and travels. It is a country which still retains its ancient mystery. It is just as possible now for adventure and fortune as it was in the time of Pizarro. He has traveled in all parts of the world, is familiar with various languages and he can state from his own knowledge of Africa, Australia, Mexico and Central America, as well as



AUGUSTO B. LEGUIA
(The next President.)

Minister of Finance for two successive terms, who, by his wonderful ability and enterprising work has so ably assisted President Pardo in creating the present financial success of Peru.



FREDERICK ELGUERA.

The popular Mayor of Lima for years. Elguera has done an immense amount of work in beautifying and improving the city and has introduced many reforms.

United States and Europe, that no country offers the advantages to men with or without capital, as does Modern Peru today, to all sorts and conditions of men, provided they are honest and work with the same enterprise they do in this country.

Do you grow fruits or do you farm? You can with the knowledge and experience gained in this country obtain free lands in the Piches district, where in a few years you may make your fortune and have a delightful home, the most beauitful gardens and orchards in the world. Do you fish and hunt? Then, there is for you a trapper's life in the mammoth Andes, where you may glory in the chase and make your thousands in the season as well. Do you enjoy fishing? A fortune awaits you at the sea shore.

The writer remembers with regret the fishing smacks of the Gulf of Mexico, which returned almost empty, having had a poor catch. The shores of Peru teem with shoals of "big fellows," and such smacks as run to the Mexican Coast after fish for Louisiana, could soon retire fairly rich. Fish packing and salting is not understood in Peru.

Do you understand the manufacturing business? There are chances in the various cities of Peru for small and big capital, placed with experienced men to manage the factory.

Emigrants of all nations, of good character and health, may quickly obtain positions on the large estates or plantations and with the same enterprise given in this country to similar work can advance rapidly and secure a competency. There is room for hundreds of thousands of agricultural laborers in the country. There is also a constant demand for skilled labor. Chemists, mechanics of all sorts, distillers, carpenters, blacksmiths, people familiar with vine growing and all workmen in general can do well in the country, with every advantage of

promotion and advancement that is not to be found in the United States or elsewhere.

The writer often wonders at the profits that will be made by a good creamery and cheese factory. There are men in the interior of Peru, who catch butterflies for a living and they catch as many as five thousand insects per day of the most gorgeous colors, which sell in the European markets for $1.00 each. The writer once paid $2.50 for a certain specimen in London, which can be caught by the hundred within a few hours in this country.

The prospects in Peru are almost incredible and in the near future hundreds of thousands of emigrants will bless the Lord for the fullness thereof. There is not a country to compare with it in the world.

The advantages that a settler may obtain in Peru are far superior to those that have been found in this country in the early days or even Australia, for it is old in civilization and the only thing it requires today to develop its wonderful lands, mines and farms is men with ability and power to work, and last but not least, capital.

Thousands of Americans have gone to Canada to a long life of toil for a slim chance of a better future on free lands. Lands that freeze during the long winter months and where the earnings of summer are often spent to tide over a rigid winter.

It is possible for farmers to rent lands in Peru, having sufficient water supply, for 25 per cent of the crops. Farmers can also rent property where the owners furnish oxen and implements necessary, together with seed, for 50 per cent of the crop or land can be leased at a certain reasonable rent per year. I would state that the farmer who takes possession of land in Peru, or who will work for owners of the land and use the same knowledge

and perseverance and labor in the same way that they do in the United States, can make a fortune in a very quick time. There is offered advantages of improvement without the competition existing in this country.

Peru comes near being a Paradise. Every sort of fruit, cereal and vegetable grows without any effort and in great abundance. It is a veritable land of sunshine, of flowers and fruits, of cattle and sheep, of natural, rich pastures, of cotton, silver and gold. Poor man's gold, too, which may be washed out by hand, alone, at the rate of $10.00 and $20.00 per day.

You may reach the country easily and it is nearer to the United States than Europe. Several steamers sail for the Isthmus of Panama every week and from Panama to Peru they are sailing twice a week. The fare is reasonable and the distance traveled is covered in 16 days. Settlers who possess some means can obtain all sorts of facilities and cultivate large tracts of land. It is quite possible for the poorest farmer to settle in the district of the Piches now open to emigrants and in a few years' time have a very pleasant home and an income such as could not be earned in fifty years of labor in the United States, owing to the great fertility of the soil, and splendid, healthy climate. Peru has spent over a million dollars in preparing the road to this wonderful region, teeming as it does in vast rubber forests, in salt deposits, in gold and silver ores, coal deposits, immense pastures, cotton and agricultural lands—all of which may be had for the asking by settlers.

The writer will be pleased to furnish any information, maps and pamphlets that may be desired regarding Peru and he has in preparation the following pamphlets: **"Free Lands in Peru," "The Cattle Industry of Peru," "Agriculture in Peru,"**

"Rubber Fields of Peru," which are going to be the finest in the world. **"The Mineral Industry of Peru,"** which will far exceed that of Mexico, in which over one hundred and twenty-five million dollars of American capital has been invested.

DR. A. de CLAIRMONT,
Consul of Peru,
Toledo, Ohio.



ANCIENT HISTORY.

I do not intend to give more than a very brief resume of the old and hoary history of Peru. There are ruins now existing in the country which go back to the unknown and dark ages. There are no traces of legends, no hieroglyphics, with the exception of Chinese characters which can be disfigured and the probable age of the ruins arrived at. It is now believed by the scientist that the imigration came from China. Whatever civilzations have lived and died throughout Peru—some of them far antidate those of Egypt.

The country is full of the work of ancient man and civilization has advanced by waves by different periods in the unknown past and extended as far south as Chile and on the north as far as Columbia. The only civilization that we can arrive at with any degree of certainty is that of the Incas, and the Incas themselves migrated to the country from the north and overthrew the peaceful civilization that existed in those days.

The writer has in his valuable collection, pottery of at least six different epochs in the history of the country, some covered by ordinary lines, dots and dashes of the most primative form figures. Cloth that is woven from llama wool. He has also implements dating from the stone age and traces from the bronze age. Then there are articles, such as spoons, knives made practically of silver and copper of the Inca age. The ancient people before the regime of the Incas were a marvelous race. For instance, they worked silver and gold solder, dyed clothes with permanent colors, colors which exist today as fresh as when put on thousands of years ago.

One part of the civilization of Peru, probably dating back two thousand years, resembles the

work of the Mayes, of the Peninsula of Yucatan, which antidates by thousands of years a civilization of the Aztecs in Mexico. The writer, some years ago, having thoroughly explored the interior of Yucatan—there is one habit or custom to which I will refer here, and that is of a festival that has taken place in China for thousands of years and which is the annual plowing of a sacred piece of land. This has been done in the old time up to the times of the Inca in Peru with a silver plow. The custom, undoubtedly, being imported from the East in the long past. European Scientists are at present, studying the successive emigrations of Peru as shown by the ruins and monuments of different periods scattered throughout the country, but few instruments have survived of the language of these ancient people today to throw light and to furnish data on them.

Dr. Hoele, the noted German Scientist, now in charge of the museum at Lima, states that there was a form of writing, which existed in the times past, and of which a few samples are now to be seen.

All along Peru, in the interior on the summit of the Andes Mountains are to be seen ruins and even in the depths of the forests are found huge boulders that with pre-historic hieorglyphics and figures of animals rudely carved. Some time ago, in the year 1874, there was found in the nitrate beds of Tarapaca, buried away underground, the remains of a hut, and in it were two fish hooks made of fish bones, a small straw hat and a cap of a yellow color spun from llama wool and decorated with bird feathers. There was also found in a wool spun purse, some corn. The remains of the house is one of the most ancient ever discovered, and consists of a circle of ruins joined together



THE LATE PRESIDENT CANDAMO.

A talented statesman under whose administration Peru made rapid progress as a World Nation.



J. PRADO UGARTECHE, D.D.L.
The Minister of Foreign Affairs.

by means of clay. It was about eight feet in diameter, and was covered with straw. The age of this discovery is entirely beyond calculation.

Rule of the Incas.—This civilization which was conquered by Pizarro, shows us a very wonderful government. Under the Incas the mines were worked in a rough manner, the metal was melted in furnaces built on high mountains. Iron, though obtained in Peru, was never used, and was really replaced by copper and tin. The writer has bronze instruments of this date, containing 93 per cent. copper, 6 per cent. of tin and 1 per cent. of silver. On account of the primitive instruments used, the race never reached the state of development that may be acquired by agriculture. These people melted their gold and silver in furnaces, made figures from molds and soldered them in such a manner as to be invisible. Effigies of men were drawn with gold, silver and copper plates, a great many of which are now in existence in the museum. Cloth was woven of wonderful texture of a fineness of silk and so interwoven with gold and silver and dyed with beautiful indelible colors. The embroidery, too, of that period was very fine. Emeralds, amethysts and other stones of equal hardness were beautifully polished and burnished. The greatest mystery in our days and to myself as a physician is how the ancient embalmed their dead. After hundreds and hundreds of years, the bodies retained their exact features, softness of skin, eyes and hair intact. In a private collection of the writer such mummies may be seen.

History.—It is well known how Pizarro conquered the country, and, imitating the case of Cortez, sur-

rounded the Emperor of Peru, forced him to pay an immense ransom in gold and silver, amounting to three million dollars, which in these days represents an immense fortune, and then put the Emperor to death in the city of Cajamarca, on August 29th, 1533. With the death of the Emperor, Atahulpa, the conquest of the whole empire was an accomplished fact. All the strength of a great nation was doomed and the empire rapidly fell to pieces, and was destroyed under the rule of the avaricious Spaniard. Pizarro, with no trouble conquered and occupied the very ancient capital of Cuzco and obtained in booty from that city over ten million dollars, a sum which represents an immense amount of money, for the gold and silver of Mexico and Peru have not yet flooded Spain. On January 18, 1535, the city of Lima, was founded by Pizarro, which he made the capital of the kingdom, and ruled the title of the Governor of Peru, in which city he was finally assassinated in his own palace, June 26, 1541, and his body now rests in the cathedral which he founded.

Sailing out into the Pacific from Panama, the Isthmus lies behind, so low and narrow, and understandable, that as you watch the jagged backbone of the continent disappear into the mists on either horizon, toward Honduras and Columbia, it seems almost as though you were looking at a relief map, and that if you should climb to the top of the mast, for instance, you could view both continents from Alaska down to the Horn. This is the beginning of the real South America. And, after the third day out, when the ship crosses the Line, the rest of the world seems very far away. One is aware of stepping into new pastures as soon as one boards the steamship at La Boca.

In the North Atlantic, at least, there is nothing quite like those quaint arks that meander down the long highway from Panama to Peru. Large as our smaller ocean ships, but with an extraordinary amount of deck space, and the staterooms all on deck, they carry everything from mail to fresh lettuce and perform the functions of a houseboat, freight steamer, village gossip, and market gardener. Your beefsteak of to-morrow stands on the hoof gazing up at you from the hatchway below, and on the upper deck, beside the shuffleboard, barnyard fowls housed in a doubledecker coop blink reproachfully through the slats.

Smooth Ocean.—It is this part of the ocean, between the Isthmus and Peru, which suggested to the old Spaniards the name Pacific. It is like a millpond. And those strange galleons, with their chicken coops and unhappy steers and unbranded inhabitants, mosey along through the heat-shimmer as though there were no such thing as hurry in the world. An engaging laxity pervades one's ship. It was always a mystery to me just how ours was navigated.

Short distance.—We rarely, big as we were, did more than eight knots, and whenever it was found difficult to make our next port before sunset we would slow down and come in the next morning. It is a trifle over three thousand miles from Panama down the coast to Valparaiso, and the journey ought to be made in ten or twelve days. It now takes—although the Peruvians are organizing a faster line—anywhere from three weeks to a month. It is about fifteen hundred miles from Panama to Callao, and our journey, with stops at Guayaquil and little ports along the coast, consumed a fortnight.

Slow as they go, express boats cut across the

Gulf from Panama to Guayaquil, and all that one sees of Ecuador is the tropical banks of the Guayas river and the walls of Guayaquil.

Guayaquil Population.—There are some sixty thousand people in Guayaquil, and the town is the one doorway from this almost forgotten country to the outside world. About one-third of the chocolate which the big world uses comes through Guayaquil, and like Columbia, Ecuador has plenty of rubber and vegetable, ivory and things in the valleys and montana land of the interior. But it is as yet the least finished of the South American republics, and in spite of such interesting places as ancient Quito, where the unhappy Inca, Athahualpa, used to eat off gold plates.

Pizarro's First Landing.—When the ship sweeps down the Guayas river on the swift Pacific tide and passes the town of Tumbez—where the gifted ruffian, Pizarro, landed four hundred years ago to conquer an empire with one hundred and eighty men—green shores are left behind. For nearly two thousand miles southward, until close to Valparaiso, the coast line is as bare as the desert of Arizona. On this western slope of the Andes there is no rain. It is always in sight from the steamer, unless veiled by mists—bare, tawny, with the ramparts of the Andes shouldering up and up, level above level, pale and amethystine, to the white snow-line. Along the foot of this rampart, pasted, so to speak, on sand-flats or tacked into the hillside, are little towns, each walled away from the other, each the gateway to the steamy interior, or to a fertile valley made by the melting snows, and set in the wilderness of bare rock, like a green tape tacked on yellow carpet. All the Peruvian coast is situated much as Boston and New York and Philadelphia would be if the Rocky Mountains

rose up from their suburbs and walled them away from the rest of the country.

Coast Towns.—It means a good deal when a ship comes into these shore towns—Paita, Pacasmayo, Salaverry, and the rest—our lazy galleon dozed in the warm sunshine. Sometimes there were a dozen lighters full of freight to give or take sometimes a few score casks of rum and one lone passenger carrying his bed with him would delay us half a day. Sometimes we swung at anchor for hours while the Peruvian doctors with sheaves of thermometers took the temperature of everyone aboard, and, mustering the passengers in the music-room and the crew aft, felt of everybody's pulse.

Variety of Freight.—Except at Callao, there is scarcely a harbor on the Pacific north of Valparaiso, and at all these little ports along the Colombian and Peruvian coast ships anchor half a mile or so off shore and handle their freight in lighters. Away off here, these boxes and bales and casks—with their "Kilo 68—Bordeaux—South Milwaukee—Hamburg—Fragiles—Via Panama—Chicago"—become almost flesh and blood. We would lean on the rail while they came thumping up out of the hold, swung overside with the warning "A-bo-jo!"—watching by the hour, just as one might sit at a cafe table and watch the people go by. International trade became something intimate, human and touchable. There were no exports or imports; there were Panama hats and sewing machines and milling machinery and fresh chocolate and cotton cloth and pineapples. A sheaf of polo mallets bound for Quito went off with the rest at Guayaquil. Every sling-load had its new whisper. The fascination of barter seized everybody. We all became Phoenicians.

Port of Callao.—One day after a fortnight of coasting the ship sails around a bare brown island and into a hazy, tawny-bluish harbor, full of steamers and masts, with a warship at anchor here and there, pelicans swarming about as thick as blackbirds, and such a prodigious aspect of busyness afloat and ashore in comparison with the toy towns of the desert coast that the drowsy pilgrim feels he must almost brace up to meet the shock of the real world. This is Callao. It is the port of Lima, the capital—only nine miles up the valley by railroad or trolley—and the gateway into central Peru. More than a thousand vessels touch here each year, and through it passes about half of the country's trade. Earthquakes and fire have attacked it, the Spaniard's bombarded it in '66, fourteen years later the Chileans left a little when they got through. But monuments to its heroes are taking the place of ruins of the war, thirty thousand people do business in this—as it were—"downtown" of ancient Lima, and there is an English club from the balcony of which commercial exiles reading the home papers and drinking the home drinks gaze out to sea and muse sentimentally on the lights and songs of London or New York or—according to their temperament—demonstrate to you in what a lot of places millions still are waiting for the plucking here in Peru.

Dock, Wharves and Bay—There is a fine dock which at the same time serves as a wharf and is called the Muelle Darsena. On its inside it is 250 meters long by 250 wide, and covers a surface of more than 50,000 square meters; it is also defended by a dock of 180 meters long which is a prolongation of one of its side-walls. It is

united with the shore by means of a bridge which is more than 900 meters long and constructed upon iron piles.

Floating Dock.—There is also a Floating Dock in the bay; the dimensions of which allow it to admit vessels of 21 feet draught and 5000 tons weight. At the present moment steps are being taken for the construction of another floating dock capable of admitting vessels up to 7000 tons weight.

Custom-House—This is the principal one in the Republic, where all the accounts and statistics of the whole Custom's system are concentrated, and it is situated within the limits of the ancient fortresses. Its premises and stores are spacious, but they do not unite all the necessary accommodation for the requirements of an establishment of this kind, nor do they correspond to the position of Callao as the first Custom-House in the Republic.

At La Punta, about two miles to the south of Callao, there are several good hotels and excellent bathing. This place being at the extremity of the neck of land separating Callao Bay from Chorrillos Bay, and exposed to the sea breezes from the south and north, enjoys a bracing and healthy climate, and is much esteemed by invalids on this account. There is a railroad between La Punta and Callao. The hotel rates are modern, from $2 to $3 per day.

Callao.—In 1671, as the population had gradually increased, and likewise its imports and trade, the title of city was conferred upon it. As the centre of the colonial trade in the Pacific it became a populous and rich city, and as such the object of the cupidity and spying of the corsairs, which during the first part of the 16th century,

and the following one infester the whole of the western coast of America. Thus it was that in 1578 the famous British pirate, Drake, seized in its bay several merchant vessels, at the time that the Conde del Villar was the Vice-roy, and it became necessary in 1578 to fortify in order to repel the invasion of the British corsair Cavendish. In 1624 it was attacked by the Dutch pirate Heremati Clerck with 11 ships, 240 guns and 1600 men, and according to history he was so affected by his failure that he died of grief.

At the present time the city of Callao, according to the latest Census, taken in June, 1905, contains 31,128 inhabitants, of which 3349 are foreigners, and of these 1721 are Europeans; an evident sign of progress in the movement now visible in favor of better and more modern buildings.

Coast Line.—The strip of Peru on which Callao and the little coast towns lie is fifteen hundred miles long, and extends anyway from twenty to eighty miles into the foothills. Here are plantations of coffee and sugar and cotton, and miles and miles of fertile land only waiting, as our lands in the west waited, for irrigation to wake them up. Beyond, for three hundred miles or so, is the mountain region with its mines and grazing lands, and then the rubber country of the eastern montanas sloping down to the Amazon. Altogether there is a territory about three times as large as France, and to traverse its tangled valleys, only fourteen hundred miles of railroad. As a result, the rubber, for instance, of the eastern slope is carried to Iquitos and thence by steamers down the Amazon clear across the continent.

Tumbes is a small town of 2200 inhabitants, on the Tumbes River, and situated on the boundary line between Peru and Ecuador. It has in the



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Residence of the Minister.



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neighborhood some extensive petroleum deposits, which are now being rapidly developed. At Zorritos, close by, an important refinery has been successfully worked for many years past.

It was near to Tumbes that Pizarro first landed, at a spot known as Comendador Creek, 25 miles south. Tumbes was then a flourishing town, and the ruins of once famous temple are still to be seen in the vicinity.

Paita (population about 3500) is 120 miles south of Tumbes, and in point of commerce is the third largest port of Peru. It possesses a hotel, a theatre, churches, etc.; and there is a railway to Piura, the capitol of the department some 60 miles (by rail) inland.

Piura is the most important town in the north and is the center of the cotton-growing industry, of Peru. It has some 10,000 inhabitants, a branch of the bank of Callao, Chamber of Commerce, and other public buildings, and possesses a very dry and salubrious climate; on this latter account it is much visited by persons suffering from rheumatism and similar ailments, the method of cure resorted to there having proved very beneficial. There are several very extensive cotton estates traversed by the railway, which, to those interested in cotton culture would well repay a visit. Trains run daily.

There is also an extension of the line from Piura to Catacaos, 6 miles distant, and one of the most important centers of the straw hat industry.

To the north of Paita and 55 miles distant is the small port of Talara, remarkable for the extensive petroleum deposits in this vicinity. Several large and important refineries and pumping stations having during the last few years been established in the immediate neighborhood, and it is

believed that the industry is capable of very great development. Special tank steamers are already employed distributing the oil along the coast.

Pimentel is 152 miles south of Paita. It has a railway serving the inland towns of Chicalayo and Lambayque, ten and nine miles distant respectively. There is considerable rivalry existing between Pimentel and Eten (the next port), and the railways from both towns running through the same districts.

Eten. This port is situated 9 miles south of Pimentel and 155 miles (direct) from Paita. It has a fine iron pier 2,000 miles long, the railway running out to the pierhead; but the roadstead is exposed, and has a very heavy surf. The valley inside of Eten is well populated and richly fertile, producing sugar, rice, tobacco, etc., in considerable quantities. There is a railway (broad gauge) from Eaton to **Patapo** (30 miles), passing most of the principal towns and estates.

The village of Eten, three miles from the port, is one of the principal centres of the straw industry. The hats (Panama straw), cigar cases, etc. made here are much esteemed for their fineness of texture and excellent workmanship, and command very high prices.

The towns of **Chiclaya** (population 11,325), 12 miles from Eten, **Lambayeque** (population 6,250) capital of the province and 29 miles distant and **Ferrenafe,** 29 miles from Eten, are important commercial centers; in the vicinity are the estates of Cayalti, Patapo, Pucula, Almendral Tuman and Pomalca, which produce together some 8,000 tons of sugar and 2,000 tons of rice annually, the total productions of rice for the Department being about 10,000 tons per year.

Near to Pucala are the ruins of a notable Inca fortress.

Cajamarca, the capital of the department of that name, built at the foot of Mount Cumbe (16,000 feet), with a population of 15,000. Cajamarca figures largely in the history of the Conquest, and it was here that Atahualpa was captured by Pizarro and held prisoner.

San Pedro de Lloc, a small town of some 5,000 inhabitants. A tramway unites the town with the railway station, a mile and a quarter distant.

Chepen, a population about 5,000; a centre of commerce with the interior. Near here is the extensive sugar estate of Lurifico.

Guadulupe, population 4,000. An agricultural fair of considerable importance is held here annually, at the commencement of December. The town is also surrounded by several estates of importance.

Salaverry, 66 miles from Pacasmayo and 256 miles from Callao, is an active commercial seaport, with a population of about 1,500. The principal exports are sugar, rice and alcohol, from the neighboring valleys of Chicama and Chimu; also moderate quantities of metals.

It is connected by rail with the town of Trujillo, as well as with various other places of importance in the interior.

Trujillo, the capital of the department, is one of the most important commercial places of the North. It is a well built city, with a population of 10,000; is a Bishop's See, and possesses a branch of the bank of Callao, Chamber of Commerce, Cathedral and several other buildings of note.

This was one of the first towns founded by Pizarro; and the visitor will therefor find much to interest him from an historical point of

view. Some two miles distant are the ruins of an ancient city called Chan Chan, founded by the Chimu tribe of Indians, and which gives evidence of an advanced state of civilization in its inhabitants. There are also, nearby, the remains of an Indian Temple to the sun.

The towns of note inland are: **Chicama, Chocope and Ascope,** the latter being the terminus of the railway, and carrying on a fair trade with the interior. All of these towns are, however, chiefly devoted to agriculture, and in the vicinity there are some extensive sugar estates.

Salaverry to Callao. The minor ports from Salaverry to Callao are served by the Pacific Navigation Company's Coast Line, running fortnightly between Callao and Pimentel.

The principal of these ports are:

Chimbote, a small town 61 miles to the south of Salaverry, situated in an extensive and well-sheltered bay, considered by many the finest on the coast. Inland of the town is a very fertile valley enclosing various extensive sugar estates.

These are passed by the railway which at present runs from Chimbote to Suchiman only, but which it is the intention to carry on to the southern extremity of the valley of Huaylas.

There are in the interior various silver mines of importance being worked.

Samanca and Casmo are small seaport towns, shipping metals from the mining districts in the interior and also small quantities of sugar.

Huarmey, 43 miles south of Casma. The Ticapampa Mining Co. have extensive silver producing establishments inland from this port.

Supe and Huacho, 90 and 70 miles from Callao respectively, export sugar and cotton from some fairly important estates in the vicinity, as well as

metals from the interior. Inside of Huacho is a very fertile valley, from which Lima and Callao draw large supplies of agricultural produce and fruit.

At all of the above ports there is a land telegraph line communicating with Callao and Lima.

Wonderful Climate.—The climate of Peru is a great surprise to many travelers, and most stay-at-homers, who are inclined to think of it as a hot, steamy country lying just under the equator. Just under the equator, Peru lies, but it is neither steamy nor unbearably hot, even in midsummer. February is considered the hottest month in this country, but I have suffered far more in New York or Boston in August than in the corresponding months in Lima.

The middle of the day is hot, but not unbearable; the nights, the evenings and mornings are delightful, a good breeze blowing most of the time, day and night. Sunstrokes are unknown in Peru, and the dog has no day he calls his own in this land. While this is true on the coast, it is doubly true on the high table-lands which constitute a large portion of Peru, where heavy wraps and warm rugs and blankets are wanted even in midsummer.

Humbolt's Current.—The reason for this excellent climate lies not only in the high altitude of the plateaus, but equally in the cold, antarctic current; a great ocean river, which flows up the whole length of the Peruvian coast from the antarctic seas. This ocean current does exactly the reverse for the shores of South America of what the Gulf Stream does for Great Britain and Scandinavia. The stream warms the cold countries, this stream cools the hot countries.

Cold Water in the Tropics.—One has a tangible

evidence of this when he jumps into his bath on the first morning after leaving the coast of Ecuador. If he is not prepared for the change, he is likely to jump out again with a shiver, for the water is at least twenty degrees colder than the day before. He is only five degrees south of the equator, but the water in the bathtub makes him think he is off the coast of Maine or at least on the north side of Cape Cod.

Cool Nights.—The boon which this antarctic stream is to the dwellers on the Peruvian or Chilean coast of South America, it is hard to realize and impossible to exaggerate. The nights are cool, the days are comfortable, sleep is refreshing, the appetite survives, yellow fever is unknown of late years, and the general health of the people is excellent. Doubtless much of the vigor, energy and irrepressible spirit of these people under difficulties is due to this beneficient river of the ocean.

Coast Sands.—But a climate, however good, and people, however energetic, cannot make a nation great that has not the natural resources out of which prosperity grows. But Peru has this very element of national prosperity abundantly. As one sails along the southern boundary of Peru, one asks himself if even a condor can live on these barren mountains, and inhospitable, sand-swept coast? For a thousand miles the coast of Peru presents this bold, grand, but unspeakably barren appearance. Magnificent mountains tower up toward the cloudless skies day after day as one pursues his slow way down the coast. Not a tree or a green bush can be descried but an oasis apparently in the interminable desert. What must Pizarro and Almagro and the early explorers have thought as they sought for a foothold in this new

Eldorado. Nothing more utterly discouraging can well be imagined than these desert mountains.

Real Garden of the Gods.—But just behind them lay the wealth of the Incas, gold and silver incalculable, coffee and cotton and spices and fruits and precious woods. So today the coast line presents the same forbidding aspect, but this is only the desert fringe on the rich coverlet which overspreads Peru. Nowhere does the desert run back for more than eighty miles from the coast, and usually not so far. Even near the shore are river valleys which are wonderfully fertile, and, wherever water touches the soil in this rainless region, vegetation springs up with amazing rapidity, and the desert is transformed into the garden of the gods.

The hot climate is found along the whole coast of Peru, which consists of immense sandy deserts and sandooms which sometime travel for miles and miles along the coast. The country is practically divided into two seasons—Summer and Winter —although along the coast it never rains. The winter season which prevails from June to November on the coast is simply a season of great damp fogs which precipitate a little moisture during the night, but never sufficiently to form rain. The summer season, which prevails from December to May, during which the temperature is an average between seventy and seventy-five; a hotter temperature is rarely experienced than eighty in the shade.

Humboldt's current, discovered by the celebrated traveler and named after him, runs from the Antarctic Ocean up the coast and turns off the northern extremity of Peru. This keeps the temperature very even throughout the Summer and Winter Season and makes the heat of the coast

strip far less intense than that found on lines in the same degree of latitude.

I have already touched upon the absence of rain and the wonderful coolness of the current in a former paragraph. From this matter, it may be set forth that the climate of the coast, although corresponding to that of the very hot regions does not undergo the extreme changes prevalent in the tropical zone. Its principal characteristics are moderate and slow changes. The complete absence of rain and of storms, which go to form an exceptionally mild and even climate which foreigners on more than one occasion have called heavenly, with the exception of the rains it may be compared with that of California.

Peru forms a country that is especially favored for imigration of all races of the earth, which in this great territory they may meet all the climatic conditions of their own country. For instance, the Asiatic races, the Chinese and Japanese can live with the greatest ease in the region of the great Andes as well as support the heat of the coast and the moderate climate of the forest districts. Europeans can become acclimated in the three principal zones of Peru. Those from the Northern part of Europe will best support the temperature of the valleys and mountainous regions. Those of the southern countries of Europe are best fitted for the climate that is prevalent on the coast and in the forest region of the rubber belt.

Lima, the capital is about eight miles inland from Callao, and is connected therewith by two railways, that of the English Railway Co. and the Ferro-Carril Central del Peru.

Ancient Landmarks.—Of all the South American capitals Lima best preserves in touchable wood and stone, in the very air of it, the old Spain trans-



INTERIOR OF THE CATHEDRAL AT LIMA.
The oldest church in America.



PIZARRO—CONQUEROR OF PERU.

From a valuable painting in the City Hall of Lima.

planted by the conquerors. Pizarro himself founded it, in 1555, and started the walls which stand today. Through these streets the invaders dragged their precious falconets, and Spanish cavaliers in complete mail, carrying lances or arquebuses, clanked impressively generations before Hudson sailed past the island which is now New York.

The Most Delightful American City.—Undoubtedly Lima did go ahead in a wonderful manner in the two first centuries of its existence, and from the style of the construction of its houses, which are generally of one story only, and with a large court inside, their heavy street-doors like those of a fortress, with windows closed by solid iron bars, their balconies after the moorish style, its innumerable churches, convents and monasteries, made it look like another Seville; but with wider, straighter, livelier, more cheerful and more noisy streets. Notwithstanding the great changes which have taken place, poetry ever keeps fresh the memory of the numberless legends which give a living personality to things and events; and these legends have passed down to the present generation in the works of one of its most popular sons, the admirable literary man and writer, **Ricardo Palma,** author of the much esteemed traditions of Lima, relating to the period of the Viceroys. The traveler who for the first time passes through the streets of Lima, on beholding the aspect of the churches, of the spacious and silent convents and of the ancient houses which still retain their primitive construction, can easily evoke the remembrance of a society which has already disappeared, and without doubt his imagination will present before his mind the picture of the conspiracy got up by the murderers of Pizarro, the

arrogant pride of the cruel conquerors, the gallantry of the Viceroys, the struggles between the Court of Audience and the Governors, together with the gloomy proceedings of the cruel Inquisition.

Increasing Population of Lima.—Today Lima contains 140,000 inhabitants, according to the census of 1903, and without losing altogether its exotic enchantments which have been so enthusiastically described by the foreigners visiting it, it is becoming rapidly transformed into a modern capital; just in the same way as men improve their dwellings in proportion to their prosperity and acquire the means for providing for themselves with comfort, so nations extend and beautify their cities as they increase in importance and well being. Their actual changes, their reforms and the causes which give rise to them, indicate the general tendencies of the period, while the beauty and grandeur of the alterations allow one to calculate the point of civilization and progress to which their inhabitants have attained, and at the same time to appreciate their wealth and well-being.

POPULATION.

According to the latest census of the population of Peru, it is estimated that there are 3,547,821 inhabitants. In the forest regions, the population may be estimated at 450,000 people. There are about 525,000 white or Spanish, about two and one-half per cent African, one per cent Chinese and the remainder of the various cross breeds indigent to the country. In 1905, 73,000 people entered Peru and during the same year 64,000 left it, making an increase in the population of 9,000 for that year.

Antiquity of Chicago.—When a horse was

almost as strange a sight in the New World as a dinotherium, Pizarro's cavalry galloped out toward the enemy with their war bells jangling on their metal breastplates; priests of the church swung their censers and recited the exsurge Domine as the battle opened, nearly a century before the Fathers landed at Plymouth Rock. Dust had gathered on the parchment records of Lima's library, its university was old, before the little red school-house of the States had begun. Its history had been written by its own citizens, its clever young men were satirizing their townspeople, and writing verses after the most approved European models when Chicago was merely a prairie swamp.

And not all the earthquakes which have shaken it, nor the countless revolutions and wars, have been able to destroy its ancient outlines and antique flavor. The very atmosphere, which blankets the town for a good part of the year in a tawny, sunlit haze—something more than air and less than mist—seems designed to shut in and preserve the past. One may still see, overhanging the street, carved balconies which the colonists patterned after those of their native Andalusia; houses with inner courts big enough for palaces, great spike-studded front doors almost as formidable as the gates of a city.

Electric Cars.—Electric cars whir past moldering old monastery walls, within which, life has scarcely shown a ripple of change in three centuries. In the Cathedral, the sacristan will draw back the curtains from a glass case containing the very bones of Pizarro. Standing on the Cathedral steps, you may see, to the left, the quarter from which the conspirators emerged on their way to kill him. One, as the legend goes, stepped out of the way of a mud puddle, and the others ordered

him back, thinking that one who was afraid of water was not the one to wade through blood. To the right across the plaza is the government palace, in which they surprised the old conqueror, slaughtered his guard, and ran him through. As he fell he traced in his own blood a cross on the stone floor, kissed it and died. In those days they knew how!

Loss of Wealth.—When the war between Chile and Peru began, Peru was the dominant power of the west coast. She was wealthy, her army and navy was supposed to be the strongest, her capital city had all the prestige which attached to the ancient seat of the Inquisition, but, she lost heavily and by treaty, had to give up the best and richest of Peru's provinces, Tacna and Arica, which Chile was to hold for ten years, at the end of which time the people of the provinces themselves were to determine by a vote to which country they were to belong. When the ten years were ended, in 1893, Peru, still weak from the war, and further distressed at the time by revolution, had no power to force the holding of this plebiscite.

Chile Held On.—Chile did nothing—the people of this disputed provinces still being Peruvian—to bring it about. Nothing has yet been done, probably nothing ever will be. Nobody outside of Peru believes that Chile will ever give up the captured territory unless forced to do so. There are no indications at present that Peru could furnish such power. From the nitrate provinces which Chile took from Peru she has already collected, in export duties alone, some three hundred million dollars; with what was once Peru's property she supports her strong army and navy and pays almost all her expenses; nitrate has been such

an easy road to wealth that Chile has hardly bothered with anything else.

Surroundings of Lima.—The vast plain in which Lima is situated, that is to say the extensive valley of the "Rimac," forms its rural surroundings which have been divided for their better irrigation into fifteen smaller valleys, subdivided, in their turn, into 176 estates which all together measure more than 21,000 hectares of cultivable lands and 14,000 of woods. The sowing in the neighborhood of Lima is performed during the whole year, with exception of the first three months, which are those of the hot season. The villages, or rural towns, roundabout Lima are insignificant, and are formed by plain houses and small huts, as are Lurigancho, Ate, Surco which in the colonial period was the small town preferred by the men of position for the building of their country houses and gardens of amusement and Magdalena which is the most important of them. This village is situated at only one kilometer from the sea, and one side a new village has sprung up called Magdalena del Mar. The waves are so high and the currents so strong that for the present it has not been possible to establish baths in this place. It has some very elegant houses, and a fine casino for amusement. The bathing-resorts, which have beautiful and luxurious villas, known in Peru by the name of "Ranchos," possess far superior conditions.

At 23 miles from Lima, comfortably run over by railway, is situated the bathing resort, of Ancon, which is notably different from the others at the South of Lima. Its beach is sandy, free from stones, the tides and waves are mild and smooth, so that the baths here are specially adapted to children, sick persons or those of weak health.

The form of the town, like that of all modern centres, is entirely regular; as it is completely surrounded by arid fields it is a very dry place and for that reason its climate and temperature are good and healthy. Near to Lima there is also another bathing resort, the small village of La Punta, situated in the neighborhood of Callao, at the level of the sea, on the Peninsula of the same name. This bathing-resort, united to Callao, and Lima by an electric railway, is frequented by many people from both places.

Its baths have special conditions and the Bathing Establishment has excellent accommodation. In this place, as in those beforementioned, there are elegant buildings erected by well to do inhabitants.

Area and Shape.—Its circumference may be put down as about 12 square kilometers. Lima, as the capital of Peru is the seat of all the central powers;—the President of the Republic, his Ministers, and the high officials of the different administrative sections, such as the Post-Master General, the Director of the Mint, the Head of the General Treasury etc., etc.;—His Reverence, the Archbishop of Lima and other metropolitan dignataries of the Church also reside in Lima. In like manner Congress, the Supreme Court, the Higher Court of Accounts, the General Staff of the Army, etc., have their seat in Lima.

Roads and Communications.—No one can fail to recognize the great advantage of the union of the coast region, in which are situated the seaports and the Capitol, with the immense region of the Andes, in which the vast mining industries are located, and where the products of the temperate zone are cultivated; at the same time no Peruvian could fail to perceive the immense and significant

importance, as regards the development of the country, which would result from the prolongation of these railways towards the East, so as to cross the mountain range and reach the navigable spots on the affluents of the river Amazon, in order to open this immense region, which still preserves intact its wonderful natural wealth, to colonization and to the industrial enterprise of the whole world, in accordance with the modern methods.

Railroad Laws.—Notwithstanding the serious and constant efforts made by the different administrations of Peru during late years, on behalf of the construction of railways, their excessive cost on account of the topographical conditions of the country, and the great distances which invariably separate the centeres, always thinly populated, have prevented the carrying out of this purpose, notwithstanding the general desire. Under the presidency of senor Candamo (1904) a new law regarding railways was passed, devoting to their construction the entire proceeds of the tax on Tobacco, of which the amount is calculated £200,000 per annum. The present Head of the Government, don Jose Pedro, included expressly in his presidential programme, the construction of railways as one of the most prominent intentions of his government.

Numerous and important concessions have been recently granted by Peru for the extension and construction of new railways, especially to American capitalists.

Railroads.—Of all the railroads of this part of the world that from Lima up to Oroya is the most extraordinary. It is still, after pictures of its bridges have served as a stock geography illustration for a generation, probably the most impressive piece of railroad engineering in the world. Built

in the days when Peru was rich and reckless, it stands a monument of that time and of that gifted Yankee soldier of fortune, Henry Meiggs.

Col. Meiggs' Work.—Meiggs was born in New York state and after making and losing several fortunes in the east he took a shipload of lumber around the Horn to San Francisco during the gold days and sold it for twenty times its cost. He built sawmills and made a great deal of money, got into difficulties again and finally fled with his family on one of his own schooners, leaving behind him a million dollars' worth of debts. He went to Chile, built bridges and railroads for the government, and again became a millionaire. Then he went to Peru and started to build railroads there. Meiggs was not an engineer but he could get engineers to believe in him and work for him, and he had energy and ideas and the courage of his imagination. After floating $29,000,000 in bonds he started the Oroya road in 1869. He did not live to finish it, but he completed the hardest part. He carried it up the eyebrows of the Andes from the seacoast to the icy galleries of the upper Cordillera, and he paid all his debts. The legislature of California removed him from the danger of penalties for his misconduct, and he died in Lima in 1877.

Highest R. R. in the World.—The Oroya road is not only the highest in the world, but there is no other which lifts its breathless passengers to any such altitude in such an appallingly short space of time. The narrow guage over Marshall's Pass in Colorado, for example, climbs to the twelve thousand foot level, but to get there from sea level one crosses the continent and creeps up the long ascent from the Mississippi to the Great Divide. To climb as the Oroya climbs, a Hudson



A Village Band at Marcapata in the Andes, near the great **gold placers** of the Nosiniscato district estimated to contain $182,250,000 in gold dust by the department of mines of Peru



School of Botany at Lima

River train leaving New York would have to ascend, half an hour before it reached Albany, a distance one thousand feet greater than the sea level to the summit of Pikes Peak.

Banks Offer Loans.—Various banking establishments in Europe and in the United States have offered to President Pardo to supply the Nation with the sum of 15,000,000 dollars, at 6 per cent interest per annum, for investment in the construction of new railways. At the present moment Congress is discussing the conditions and the acceptance of this proposal. The realization of this loan independently of the other conditions granted as regards railways, will contribute immensely to the increase of the number of kilometers of railroads which Peru at present possesses, so that its railway system may be in proportion to the importance of the country and the vast fountains of wealth which it possesses.

Foreign Investors.—Peru is the most talked-of nation in South America today. It stands as the third richest country in the world for its natural resources. Charles M. Pepper, the special correspondent detailed with Mr. Root, calls it "a vast treasury house." The Vanderbilts, the Hearst estate and other New York financiers have over $10,000,000 invested in the Cerro de Pasco mines of Peru alone, the richest copper and silver mines in the world.

Ohio Investments.—Several millions have recently been invested by American capital in the copper districts. The Peruvian Gold Mining Company of Toledo have bought eleven gold mines of untold value in the Nosiniscato district in what is supposed to be the ancient gold fields of the Incas.

English and German capital by the millions is pouring into the country and already controls

many large, corporate interests. ExMayor Grace of New York and his associates represent some of the largest railroad interests and control many of the large government contracts. The Belmonts and Brown Brothers have millions invested in mining and rubber in Peru and, together with the Inca Mining Company of Pittsburg, have taken immense profits out of Peru as a result of their investments.

Dr. A. de Clairmont is under contract with the Peruvian Government to build two roads in Loreto county, which shall connect a navigable river from the Brazilian frontier with the Yucayali in the center of Peru. Thus opening up one of the finest rubber belts in all South America, on which the Peru-Para Rubber Company of Chicago has an immense tract of rubber forests, said to contain fine rubber in great quantities.

The principal road is now nearing completion on the Isthmus, which has been named Clairmont, in honor of the builder. There is also a city called Toledo which will have direct communication with Iquitos on the Amazon.

The longest road being built by de Clairmont will have a length of 58 kilo-meters and will require 103 bridges. The work is of the greatest importance to that part of Peru as it will enable some millions of pounds of rubber to reach the Peruvian Custom house, instead of going through Brazilian territory as heretofore.

Everybody in Peru is prosperous and the people recovering from the devastation of the war with Chile. A gold standard of currency has been maintained for eight years and the credit of the country which was down to zero not many years ago, is

now so good that $18,000,000 was recently borrowed in Germany at 90 and 92 1-2.

United States Favored by Peru.—This money is to be used for internal improvements, for railways into now inaccessible sections of the interior, and contracts for building them will be let early this year. The Peruvian government would be very glad if American contractors would become interested and tender bids for this work, because Peru is more friendly to the United States than to any other nation. No country is nearer to us or reciprocates with more cordial feelings the neighborly interest we have shown in her affairs. It is very likely, however, that German syndicates will secure the contracts for the construction of the proposed roads. The money to build them was borrowed in Germany. The great Deutscher Bank is taking a direct interest in the enterprises and negotiated the bonds. The loan was made however, by the Trans-Atlantic Bank, which was recently estblished at Lima with German capital under the protection of the Deutscher Bank to represent and encourage German interests in Peru.

Foreign Loans.—The first loan of $3,000,000 is secured by a tax on salt, and the second of $15,000,000 by a tax on tobacco, which brings in about $1,000,000 every year. Under the contracts the bonds will not be issued until the railway (in sections) is constructed, inspected and accepted by the government, so there is no danger of a diversion of the funds as has sometimes occured in other countries.

German Enterprise.—The Germans are showing the same enterprise and aggressive policy in Peru that they have shown in Brazil and in other parts of South America. They are gradually elbowing the British out. They are absorbing the export

trade, and in almost every city throughout Latin-America the retail shops, the commission business, the manufacturing interests and all kinds of enterprises are now owned or controlled by Germans. They have only recently gone into Peru, but have evidently gone there to stay. The people of the United States might have had the best of everything, but we are so much absorbed with our own affairs that we are very reluctant to go into other countries. We have had for several years larger interests than any other nation in Peru.

German Houses.—The Germans on their part import similar goods; but with their customary ability and attention to the smallest matters manage to comprehend and meet better the tastes and likeings of their clients. The Germans have in their hands today the greater part of the import trade, having succeeded in a great measure in supplanting the English. In Peru we perceive that the progress of the German trade, the importance of which goes on increasing day by day, is based on a spirit of observation and investigation of the tastes and likeings of the clients. The unceasing and assiduous efforts of the German merchants and commission agents, together with the special talent of their manufacturers for the production of cheap articles for the great mass of the consumers, is gradually transferring to the hands of the Germans the commercial predominance in this country, and to all appearance in the other South-American Republics also.

Italian Merchants.—The Italian merchants owing to their economy and perseverance, generally find themselves after a few years of hard work in easy circumstances and often owners of large fortunes. The French merchants devote their attention with preference to the sale by retail of

goods of all kinds, silks, ready-made clothing and articles of luxury. The English rarely care to bother themselves with the retail trade, but as a rule devote themselves to the wholesale import and export trade, the former consisting chiefly in Manchester goods and all kinds of stuffs, Hardware, Ironmongery and in fact all the articles produced by their numerous manufactories.

American Houses.—If the American have relatively speaking only founded a few business-houses, they have on the other hand in their possession a very considerable part of the mining operations, construction of railways, and of other public works. The capital invested in Peru by the capitalists of the United States during the last few years may be put down at $25,000,000.

Amercan Bank—There are several other large American enterprises in Peru, and the New York house of Wm. R. Grace & Co., for many years has been very prominent in mercantile affairs. There ought to be much more trade between the two countries. Callao is becoming a great port, and when the Panama Canal is opened will be nearly equa-distant from New York and Liverpool—about 3,300 miles. The principal staples of Peru are sugar, cotton, wool and rubber, which promise the greatest wealth for the future.

President's Message.—When President Pardo opened congress July 28, '07, he called attention to the rapid development of agriculture and mining, which, he said, was due in a great measure to the large amount of American capital invested in the republic, which would shortly enable Peru to demonstrate to foreign financial markets the prosperous condition of the country, the guarantees of peace and the immense natural wealth of the republic, thus opening up Peru for further foreign

investments, necessary for the construction of railways and for other productive enterprises.

Want of Colonists.—The great war which left the country flat and hopeless just as the bloom was developing in the Argentine, its inaccessibility, and the comparative lack of opportunity which it offered to imigrants from Europe have combined to keep it back. A few Chinese and Japanese have crossed the Pacific, there are British and German and occasionally American business men, but Peru has received nothing like the stream of colonists which has made Brazil's Little Germany, Italianized parts of the Argentine, made many of Chile's nitrate fields like British colonies.

The United States is evidently in high favor in Peru, for American capital and American men are helping to make the newer and better Peru in no small measure.

Old Friends.—But the United States and Peru are old friends and allies. Peru has never forgotten how, in 1852, when some Americans claimed the Lobos guano islands off her coasts, and the United States was about to enforce these claims with her gunboats, she paused long enough to look into the matter. This convinced our country that Peru was in the right and our countrymen in the wrong, whereupon she recognized the absolute sovereignty of Peru over these islands. This act of justice was referred to more than once.

On the occasion of Secretary Root's recent visit to Peru, the national assembly of commerce made the distinguished visitor an honorary member of their body.

Secretary Root.—Through it all, Mr. Root bore himself with admirable modesty, tact and geniality, and endeared himself and the American nation to this as well as the other republics which he visited.

In every one of his numerous speeches which have been published in a volume, together with the addresses of the Peruvians he spoke with freshness and vigor and in his reply to one minister of state Mr. Root said:

A Fair Name.—"You were kind enough to refer to an incident in the diplomatic history of the United States and Peru, when my own country recognized its error in regard to the Lobos islands and returned them freely and cheerfully to their rightful owner. I would rather have the record of that act of justice for my country's fair name than the history of any battle fought and won by her military heroes."

Business Laws.—In accordance with the predominant ideas of progress and the desire to foster the foreign trade of Peru, in late years special laws have been passed, to secure in cases of failure, the rights of the creditor; laws have also been sanctioned regarding trade-marks in order to protect as far as possible manufacturers and merchants against imitations; the law relating to patents for inventions has been perfected and everything is done to give freedom and facilities to trade.

Commercial Code.—Finally a new commercial code has been promulgated, inspired by the most advanced principles ruling in the legislation of the countries most advanced in civilization; and in its dispositions are to be found all kinds of guarantees for creditors and for the effectivity of contracts. This code also contains a series of liberal dispositions, regarding all the acts and contracts connected with the maritime traffic. In view of the great development in the number of the Joint

Stock Companies, Congress has now under discussion a new law respecting them with the object of giving better guarantees to the rights of the shareholders.

Business Houses.—Some business houses that have a large amount of capital at their disposal, lend money with guarantee of the shipments and make advances on account of the last crops and finally furnish means to the agriculturists and miners, thus becoming the obligatory medium for the sale of their products in the great markets of the world.

In the extensive river region and specially on the principal navigable rivers, such as the Amazon or Maranon, the Ucayala, Huayaga, Napo, etc., etc., in which there is a constant traffic either by small steamers or row boats, kept up by the traders in india rubber, with headquarters at Iquitos.

The distance navigable by steam on these rivers can be counted by thousands of miles, and the cargo traffic during the year (1905) may be estimated at more than 5000 tons; and the value of the merchandise and products imported and exported amounted to more than $5,000,000.

Native Dealers.—The foreign merchants established in Peru, who devote their attention to importation on a small scale send their orders direct, and when doing so naturally give preference to their own country, but on addressing their correspondents they frequently ignore the real source of the articles that they receive. The modest retail merchant, who is generally a native Peruvian, establishes in the interior of the country, likewise plays an important part in the progress of the foreign trade; it is he who takes in hand the sell-



THE LIMA BOARD OF HEALTH.



OROYA R. R. PERPETUAL SNOW LINE—ANDES MOUNTAINS.

ing of the goods imported by the different foreign houses established in the principle cities of Peru.

Wealth, Past and Present.—Peru is a vast treasure-house. Its mineral deposits are perhaps unsurpassed in all the world. The gold, silver and precious stones which were carried away as loot by the conquistadores enabled all Spain to live in luxury for centuries. Nowhere else in all the world was so large a value of portable booty ever captured. And never did any community grow so rich with so little labor. From 1630 to 1824, the Jesuit priests took twenty-seven tons of pure silver out of a single valley, while other mines yielded hundreds of millions of dollars, even with the primitive system employed by the monks and the native Indians. But for nearly half a century or more Peru went backward and became so poor that her richest citizens were compelled to live on the pawnshops. But that period has, happily passed, and with permanent peace the country has slowly recovered its prosperity, and today enterprises are formed for digging the treasure of the mountains and securing the cultivation of the valleys, which are exceedingly fertile and produce all of the staples known to the tropical and temperate zones. Down in the hot lowlands along the coast, cotton and sugar are grown and in the mountains, wheat, corn and barley. The slopes of the foothills furnish unlimited pasture lands, which are now practically unoccupied.

There is room in Peru for several millions of immigrants, and every occupation known to man is open to industrious artisans.

Government Progress.—The progressive and enlightened governments which have ruled the destinies of the Republic during this period have on their part done everything possible to foster the

development of the native industries, offering every facility authorized by law to foreigners or Peruvians desirous of starting any new industry in the national territory. On every side we see mining enterprises, electrical companies, irrigation works, etc., etc., starting up and the petitions for concessions of mines, rubberlands, lands in the Montana region, authorization for opening roads, and privileges of all kinds fill the columns of the Lima newspapers. All of which renders it evident that a wave of progress has invaded Peru.

Opportunities for Men of Small Means.—We have no hesitation in stating that any individual who possesses a small capital or special knowledge of any branch of human activity, will find in Peru a vast field for labor with personal advantage, obtaining as a rule much better results than he would meet with in other parts of the world.

Export and Imports.—In order to be able to judge and compare the matter of the commercial exports and imports with the different nations, and those of the United States, we will state the value of merchandise imported into Peru from the United States for 1905, was $3,428,705, while England alone sent to Peru $7,407,840, being 35 per cent. to 16 per cent. for the United States. While Germany sent to Peru in the same year the sum of $3,276,4417 or 15 per cent, France sent goods to the amount of $1,251,508 making 5 per cent., while China, Japan and Chile sent $1,239,309. All the other countries exported to Peru over $4,348,538 or 29 per cent. altogether.

It is an actual fact that trade would be given the preference to the United States if merchants would only study the requirements of the trade in Latin America. Complaints are constantly being received by Consuls that American manufacturers

do not pack the goods in the manner that is required in shipping to those countries; and, even though they sell by samples, they deliver an inferior goods, which is refused by the merchants who unfortunately pay in advance as a rule for their imports.

Import Duties.—As regards the Import Duties in Peru, they cannot be called in reality protectional, but should rather be considered as fiscal, as there is a large number of articles upon which no import duties are charged; the average rate of duty on the imported articles subject to the same is 33 per cent. All Machinery and Tools for the use of the Agricultural and Mining industries are free, as are also the rails, sleepers, cars and accessories for railroads, besides animal black and mineral coal, books and utensils for teaching, naval articles, steam and electrical motor machinery that directly favors the industrial development of the country. The official valuations are generally speaking low, and the list of the articles which only pay 10 to 20 per cent. is a long one. Alcohol, for more than 30 degrees, Wines and Liquors, Coffee, Tea, Cheese, Butter, Margarine and one or other products besides pay duty at the rate of 65 per cent.

Export Duties.—The export duties are only the following; that of 3 per cent. "ad valorem" on Gold in bullion or in dust; the special one of 40 cents per dozen on the straw hats exported through the port of Paita; and finally that charged upon the India-rubber and Caoutchouc extracted from the Highlands, which is 20 cents per kilogram gross weight or 24 cents per kilogram net. This charge is more or less equal to a duty of 4 per cent. "ad valorem," according to the current price of the rubber.

As a rule, the foreign manufacturers and merchant are not satisfied with sending their products and manufactures to Peru for sale; a large number of them come out here and establish business houses, obtaining in the same locality chosen as the field of action for their enterprise, their own customers, and opening their establishments in the principal towns. It is they who supply the demand for foreign goods which they import, and thus they are able to form an idea of the wants and tastes of their customers. These merchants contribute especially to the development of trade with their native countries. In Peru, principally in Lima and in the port of Callao, the trade in articles of food is in the hands of the Italians, who in this traffic have been the successors of the Spaniards.

New Route to Rubber Lands.—"To reach the rubber country it is proposed to build a line from Oroya in a northeasterly direction to the river Ucayali, which is one of the chief tributaries of the Amazon. It is about 300 miles to navigable water, where the rubber and other products of the country may be shipped to market via the Amazon and the Atlantic ocean. The river Ucayali runs through a rich country that is now almost entirely uninhabited, but has a fine climate and offers unusual inducements to colonization. Several large tracts of land have already been granted for colonization purposes."

Home Possibilities.—Particulars about this fine country will be given in another part of this booklet. It is one of the most desirable parts of the world for emigrants to settle in. It is possible for a family used to farming to have in a few years a beautiful home and a nice sum in the bank as well.

In the northern part of the republic it is proposed to rebuild and extend two lines of railway in order to reach valuable deposits of coal, copper and other minerals, and open up tracts of land that are suitable for vineyards, fruits and general agriculture. One of these roads will be an extension of a short line now running out of Pacasmayo to the ancient town of Caxamarca, where you will remember that Atahualpa, the "Last of the Incas," was strangled in the most treacherous manner by Pizarro, after he had filled with gold the room of the palace in which he had been confined. The mines from which that gold came have been forgotten, but still lie somewhere back in the mountains, and, what is much more valuable, there are beds of coal of good quality.

Modern Postoffice.—Of all the services under the control of the Government, the one that has attained the greatest degree of progress in the Post-office, not only on account of the special attention which the Government has devoted to it, but also owing to the natural expansion of trade and to the increase of population. It has been necessary to overcome innumerable obstacles in order to arrive at the present flourishing state of the Peruvian Post-office; the enormous extent of territory, the greater part of which is rugged, the scarcity of good roads, as well as the necessity of meeting the heavy disproportion of which lately existed between the Receipts of the Post-office and the amount of the numerous and diverse expenses which the keeping up of a good service demands, have rendered it extremely difficult to place the Postal Institution on its present progressive footing.

Although by a special declaration the Post-office receipts are not included in the General Revenue, in practice they are sufficient to meet

all its ordinary expenses, and for the last two or three years have left a considerable surplus. It is owing to these circumstances that the Peruvian Post-office has been able without the slightest difficulty to meet its obligations with the foreign Post-offices, which form part of the Universal Postal Union, of which Peru is one of the members. At the present moment the National Post-office has paid off all the amounts outstanding against it, originated by the obligations imposed by the agreements of the Union, and one may safely affirm that, in view of the prosperous career of our Post-office; it can punctually satisfy all its pecuniary obligations, with its regular income exclusively.

Able Postmaster General.—The Direction of the Postoffice has been since 1901 in the hands of the distinguished Public Officer, Captain Carlos Ferryros, of the Peruvian Navy, who is a most honorable person, of energetic character and well-known ability, all of which he has had the opportunity of proving during the five years in which he has occupied such an important post.

As an evident proof the financial improvement in the conditions of the Peruvian Postoffice, it will be sufficient to compare the receipts of the year 1905 with the amounts estimated in the previous year 1904, as may be seen from the following figures:

	1904	1905
Sale of Stamps	$150,000	$198,175
Fees on parcels	45,000	85,185
Extra postage on correspondence	2,500	3,920
Commission on Money-Orders	3,000	3,120
	$200,500	$290,400

showing a difference of $89,900 in favor of the year 1905.

The Money Order service has been arranged with Germany, France, Belgium, England, Switzerland, United States of America and Bolivia, and the Parcels-Post with the same countries and also with Chile. The Money-Order Service is also established between the principal cities of the Republic and Lima, as well as between the capital and the aforesaid Offices.

As regards the Parcels-Post to foreign countries, the former can be sent from any part of the Republic, through the Lima Post-Office, and all those proceeding from foreign countries pass through the Lima Postoffice, where after examination of the contents and payment of the respective import duties they are delivered to the parties to whom they come addressed or to those duly authorized to receive them. Recently the Principal Office at Iquitos has been authorized to open a direct service with foreign countries because on account of its being at such a great distance from the Capital of the Republic it is more convenient for the interested parties in that region that the parcels addressed to them should go direct to Iquitos instead of undergoing the delay caused by their coming through the Lima Postoffice.

Rates of Postage.—With respect to the rates of postage the idea of thorough liberality has always been predominant, and the rates charged upon the correspondence have gradually been reduced, not only as regards that addressed to foreign countries but also upon that circulating within the Republic.

All letters not weighing over 15 grams pay 5 cents silver for circulation throughout the Republic, whatever may be the distance covered; for letters of greater weight than the above, up to 50

grams the charge is 2 cents for the excess, and one cent more for every 100 grams.

The rate for the service within the limits of the capital, is, for letters not weighing over 15 grams, or for Post-Cards, 1 cent.

As regards the native newspapers, whether political, scientific or literary, although they be in the form of pamphlets, no postage is charged upon them within the Republic; those forwarded to the different countries of America only pay the rate of 2 cents for every 50 grams; and those addressed to Europe pay 3 cents for the same weight.

The rate of postage upon letters addressed to foreign countries and not weighing over 15 grams is 10 cents and 3 cents for each Postal Card.

Telegraph—The increase in telegraphic communications is something wonderful. The total number of telegrams transmitted over the State lines during the year 1905 is the following:

Telegrams—General Service	621,644	
do —Press do..	6,213	627,857
Number of words—General Service	11,067,149	
do —Press do..	418,726	11,485,875

In the first six months of the present year the number of telegrams, has far exceeded that of the same period in the previous year, as new offices have been opened, and the lines prolonged by the branches constructed between Tinta and Yanaoca in the South, and between Ayabaca and Macara in the North of the Republic, the latter covering a distance of 47 miles and the former that of 11. Moreover the Direction is now constructing the lines from Pacasmayo to Cajamarca, a distance of 119 miles; from Santa Rosa to Macusani, a distance



INTERIOR OF A SPANISH RESIDENCE OF THE OLD DAYS.



A modern bank building. Note elegant lamp-posts, well paved streets and sidewalks.

of 102 kilometers; from Chuquibamba to Pampacolpa, a distance of 23 miles; and from Urubamba to Santa Ana, a distance of 160 kilometers, so that we may pretty surely predict that before the close of the present year, 362 miles more of telegraph lines will have been constructed, over and above those now existing.

The rate charged the public for telegrams is 40 cents for a telegram up to 10 words, including the address and signature, and 4 cents more for each additional word.

Wireless Telegraph.—This experiment has fortunately been highly satisfactory and in view of its success, the telegraphic communication in the vast forest region of Peru will undergo a complete change.

This system will be at once extended to Iquitos, by means of the construction of intermediary stations, and later on others will be established in different directions in the Montana. By this means a more secure telegraphic communication, costing much less than that which would be required by the present system of the telegraph wire, will be obtained. In former times, and as we have been informed, recently also, Brazil attempted to establish wireless telegraphy through her forest region, but did not find her efforts crowned with success; a failure which was preceded by that of the experiments made in the Belgian possessions of Congo.

We may therefore affirm that of all the tropical zones covered by secular forests, the aforesaid Peruvian zone is the first one in which this modern means of transmission of thought has been successfully established.

Telephone Systems.—This system of rapid com-

munication has been promptly and generally adopted in Peru.

The company which maintains the service in the Capital of the Republic, has a vast network at the disposal of over a thousand subscribers, and has extended its wires to all the towns, hamlets and estates round about the Capital, among which are Callao, LaPunta, Chorrillos, Barranco, Miraflores, Ancon, Huaral and Lurin. There also exist Telephone Companies in all the prinicpal cities of Peru, as for instance, Arequipa, Cuzco, Trujillo, Piura, Cajamarca, Cerro de Pasco, Huanuco and Ica, and in those centers, just as in the Capital of the Republic, the service has been extended to the neighboring towns, hamlets and estates.

The total distance covered by the telephone lines for public use in the whole country, amounts, according to the latest information, to 5238 miles.

New Installations.—Telephone Companies for the accommodation of the public have also been formed in many of the business centres along the Coast, and have succeeded in extending their network to considerable distances; for instance the Telephone Co. of Los Andes has its wire running from Pacasmayo as far as Cajamarca, a distance of 131 miles.

Although the installing of all telephone service may be considered as free to every one asking for it, the inspection and surveillance of it is in the hands of the General Direction of the Postoffice and Telegraphs.

It is generally believed, and is proved by the facts and by the prosperous condition of the Postal and Telegraph Department, that it has never attained in Peru a state of greater progress than during the present Administration.

Peruvian Army Re-organized.—The co-operation

of the French officers in the task undertaken by the Government of reorganizing the Peruvian army, has been highly beneficial and has produced excellent results. The officer of the Military Academy who enters the ranks of the army, does so, imbued with the ideas of military honor loyalty and dignity which correspond to an army officer. The soldiers who in the greater part come from the small towns scattered over the vast and solitary mountain lands of the Andes, many of them totally wanting in instruction and in the principal notions of their duty to their mother country, after the conclusion of the years of obligatory service, have become transformed into real citizens with sufficient instruction to render them useful members of the Peruvian community and consequently fitted for giving their vote, because in Peru according to the Constitution only those who know how to read and write and have a right to vote in the public elections.

Excellent Soldiers.—The transformation of the army has been complete from a moral and physical point of view, and today the army of Peru is the principal educational element of the people and guarantee of public order.

Moreover the Peruvian soldier possesses all the peculiar conditions of his race.

Sobriety and endurance are the qualities most prominent in the Peruvian soldier. On commencing life in the field, he is provided with a little cocoa, he never troubles himself about other food; and so he crosses plains, ascends lofty and difficult mountain slopes, and performs a daily march of as much as 24 miles without showing signs of fatigue. Since the time of the wars of the Independence, the Peruvian soldiers were noted for

these qualities, of which General Valdez well knew how to take advantage.

We may also add that the spirit of the Peruvian soldier renders him docile to habits of discipline; he is submissive and obedient under all circumstances of military life—in the bivouac—on the march—or in battle. Of good disposition, the military statistics scarcely exhibit cases of serious offences.

Mounted Police.—Besides the Army there also exists in Peru the Gendarmerie, or Mounted Police, for the service of each Department, and which consists of 2156 men.

The Naval School, the direction of which has been entrusted to an officer of the French Navy is established on board the pontoon Peru. In this School the young men receive the professional, theoretical and military instruction necessary for them to enter the vessels of the navy as midshipmen, whence they rise to sub-lieutenants after three years service in Peruvian or foreign vessels of war, in order to acquire practice and perfect their theoretical education.

At present three Peruvian midshipmen are completing their practical instruction on board war vessels of the United States and seven others in those of the Royal Spanish Navy.

The Scientific Institutions.—We will now cast a glance over the different institutions established in Lima, and which give an idea of its culture and of the degree of civilization to which it has attained. We will commence the resumen of them with the Lima Geographical Society, which to a certain degree, is a dependency of the Foreign-Office. This Society was founded in 1888, with the praiseworthy purpose of fostering geographical study in Peru, and of forming for the Government a con-

sultative centre. Since the 15th of April, 1891, on which date it was installed definitely in its own premises, it commenced its important labors by the publication of a bulletin, in which it gives an account of its work.

The Geographical Society of Lima.—At present this interesting publication of the Geographical Society comes out quarterly with select matter which treats of Archoeological Geography, Statistics and Climatology, it also contains the text of the conferences upon various scientific topics of public interest, which are given from time to time in its halls. This important publication of the Society has afforded it prestige in the geographical centres of Europe and America with which it contains an active correspondence.

The collection of its bulletins forms today 8 volumes of instructive matter, and it contains valuable information respecting the geography of Peru and of other sciences to which its members devote their studies.

It is today formed of 163 active and of 172 honorary and corresponding members. The President and Vice-president are President of the Republic and the Minister of the Foreign Affairs for the time being. The official president of the Society is the distinguished civil engineer don Eulogio Romero and the Secretary is the learned Mr. Scipion Llona.

To the protection extended to it by the Government and to the enthusiasm of its members is due the degree of prosperity which the Society enjoys. It may safely be asserted that the Lima Geographical Society is the first institution of its class in the Republic, and that which most resembles those of its class in the great scientific centres of Europe and America. The premises of

the Society are situated in the upper story of the National Library building.

Historical Institute.—Among the numerous and important initiatives of the present Government may be mentioned the creation of the Historical Institute of Peru, intended to cultivate and further the study of the National History: intrusting it with the formation of a National Museum in which it should form a collection of objects of historical value and interest. It is also intrusted with the collecting, deciphering, organizing, commenting and publishing of the documents relating to our history, and the care and preservation of our national monuments of an archoeological and artistic character. Besides serving the Government as a consulative body in the matters relating to historical science, it is also the mission of the Institute to initiate and recompense the editing of the monographic or generally historical works of the country.

The number of members forming the Institute, besides those specially named, are thirty. The museum of the Historical Institute is situated in the upper part of the Exposition Palace and is divided into the following sections:

1st. Objects pertaining to the savage tribes.

2nd. Archoeology, which comprises objects of prehistoric America relating to Peru.

3rd. Colonial period and that of the Republic in which should be collected the objects that may afford information from an artistic, political, ecclesiastical and military point of view, as well as regarding the customs of the periods of the discovery of Peru, of the Conquest, of the Viceroyalty, of the Independence and of the Republican Government.

At the head of the Museum is the eminent German archoeologist Dr. Max Uhle. This institute

figures as a dependency of the Ministry of Justice.

The Lima Athenoenum of which are members the principal persons who in Lima cultivate learnin. It was founded in 1877 under the name of The Literary Club; on its re-organization in 1887 it took the present title and since that time it has made its mark in the intellectual life of the country, contributing with decided eagerness to the greater brilliancy and lustre of the national learning.

Being now installed in its new premises and enjoying a subsidy, the existence of this Institution will in future be a much more prosperous one. At the present time its President is Dr. Javier Prado y Ugarteche, now Minister of Foreign Affairs.

The Mercantile Exchange constituted by the Lima merchants fixes the daily quotations of the marketable securities. On its premises are made the transactions in these securities. The development of this useful Institution is still in its infancy.

Fire Company.—The Lima corps of firemen must be denominated a philanthropic institution; its members exercise their noble mission disinterestedly, and besides contribute with their personal subscriptions to the support of their respective companies.

The number of them is about 500, distributed among the following companies, of which are formed by Peruvians, the Lima, Salvadora and Cosmopolita, and by the other colonies, the Italian company, Roma, the French one, France, and the English one, Victoria. There are two more companies, besides the International. All of them have at their disposal an abundance of material sufficient to overcome and extinguish the largest fires which might happen to break out.

Lima has also several other associations principally organized by groups of artisans; the greater part of them for humanitary purposes and for mutual assistance.

There are also in the Capital many Catholic Charitable Institutions conducted by women.

Markets.—Lima has four market-places, viz: the "Baratilio," "Aurora," "Guadalupe" and "Concepcion," this latter being the principal one. This market occupies the upper and lower stories of a vast and beautiful edifice surrounded by four wide streets. It is well ventilated and well supplied with water, having besides all the necessary commodities for cleanliness and a good appearance. The great variety at all times of meats, birds, fish, vegetables, fruits, etc., affords an ample supply of these for the principal market in Lima, and for this reason as well as for the adaptability and good taste of the building it is undoubtedly one of the foremost in South America.

The National Public Library—To the lofty ideas which inspired the illustrious heirs of the Independence of Peru, General Don Jose de San Martin, is due the foundation of the National Library. In the decree creating it and which bears the date of 21st August, 1821, that General said that it was the duty of free governments, elected by the will of the people, to give to these instruction and civilization by means of the existence of useful establishments. The locality chosen for the foundation of the National Library was some saloons in the ancient college of Caciques. The inauguration took place in September, 1822, on a basis of 11,256 volumes, collected principally from the book-shelves of the Convents, and among them were a great many Latin books, in folio, which treated of religious matters. When Lima



ENTRANCE TO THE BOTANICAL GARDENS
AT LIMA.
They contain a large collection of rare plants and those indigent to the tropics.



SCENE ON LAKE TITI-CACA.
The highest and deepest lake in the world, situated on the top of the great Andes.

was occupied in 1881 by the Chilean army of invasion, the Library possessed some 40,000 volumes and valuable manuscripts, of which the greater part were carried off to Chile; while the rest of the books and manuscripts were publicly sold by weight in the Lima stores. To the enthusiasm and perseverence of the well-known literary man, Don Ricardo Palma, is due the reorganization of the National Library, and most deservedly to his care has been entrusted the direction of this establishment. He commenced his patriotic labors by the repurchasing of a large number of the old volumes, and today has the singular good-fortune to be able to present on their respective shelves some 50,000 works in an establishment in every way resembling modern libraries, so that he has enjoyed the pleasure of seeing his intention to place the National Library on a footing equal to that of former times. This Library will go on increasing its collection of Books and Manuscripts, as its Director never ceases his untiring efforts. The generous contributions forwarded by the Smithsonian Institute of Washington have greatly assisted in placing the Library on its present footing.

A Distinguished Mayor.—The life and soul of this Mayor, Federico Elguera, whom the inhabitants of Lima, as a proof of their appreciation of this excellent qualities, have just re-elected for the sixth time as Mayor of the Capital of Peru.

Once more it has been proved that it is not sufficient to know which are the reforms which a city requires for it to reach prosperity, but it is also necessary to possess the will to carry them out. The Mayor of Lima, who possesses this quality, is a man of action and not of mere projects. When the work of imagination and of creation is

brought to a close, it is necessary that the will should come into action. Only in this manner can be carried out reforms like those which the Mayor of Lima has successfully taken in hand. The shape of the city is that of a triangle of which the larger side has an extent of 13 kilometers and rests upon the river Rimac.

The National Tax Collecting Company.—After the unfortunate war with Chile, when the revenues from the Guano and Nitrate were lost, the statesmen of Peru took in hand the patriotic and difficult, although necessary task of putting in order the finances of the country, by creating a real system of taxation, the product of which together with that derived from the Custom Houses, should be sufficient to meet the public expenses. For this purpose a Joint Stock Company was established with the object of assisting the Government in the organization and collection of the new taxes.

The business of the Company has been prosperous, and the progressive increase in the collection of the taxes under its administration, is a proof of the zeal with which it looks after the interests entrusted to it. The present manager of the Company is Mr. Benjamin Avilez.

Cerro de Pasco, 12,000 inhabitants, is one of the richest mining districts in the country. It is situated at an altitude of 16,500 feet and about 100 miles north of Oroya. A line of rail connecting this town with Oroya is shortly to be built.

Tarna, a thriving commercial town some 15 miles to the east of Oroya. It has a population of about 9,000 and is well spoken of on account of its dry and temperate climate.

Jauja, at an altitude of 11,150 feet, is the chief resort of consumptives and persons suffering from bronchial affections, its climate being particularly

beneficial in such cases. Apart from its high standing as a health resort, Jauja is not a town of much importance, though under the Inca rule it was a flourishing and populous city. The population of the town and its suburbs is said to be 21,000. It is situated about 30 miles to the south of Tarna and 50 miles south to Oroya.

There are also the town of **Conception** and **Huancayo** to the south and **Chanchamayo** to the east of Tarma, and distant about two day's mule ride; and **Huanuco** a similar distance to the north of Cerro de Pasco.

Cerro Azul, 72 miles south of Calloa, is a surf port, dependent upon Callao Custom House. It exports fair quantities of sugar from the adjacent valley of Canette. The chief town of the district **Canette,** is about five miles inland.

Tambo de Mora is a minor port, 105 miles south of Callao and 14 miles north of Pisco; chiefly occupied in the export of wine, cotton, sugar and agricultural produce, from the rich valley of Chincha, the estimated produce of which is 224,000 gallons of aguardiente (brandy), 12,500 gallons wine, 1,200 barrels rum and 15,000 quintals of cotton per year. The town of Chinena is situated six miles from the port of Tambo de Mora.

Pisco, 116 miles south of Callao, serves as the outlet for a rich and fertile valley covering an extensive area. Though chiefly devoted to the culture of the vine and cotton, for which its climate is particularly suitable, it exports in large quantities all kinds of agricultural produce. The town of Pisco contains about 4,000 inhabitants; it possesses a tramway, and a fine pier 600 yards long; also a railway to Inca, the capitol of the department, 46 miles distant.

Ica has a population of 10,000, devoted to wine and cotton production and commerce with the interior. It is a neatly built and well situated town; and in the immediate vicinity are several small medicinal lakes, highly recommended for diseases of the skin and stomach, and for rheumatism. The province of Ica is said to produce 700,000 gallons wine, 90,000 gallons spirits and 40,000 quintals cotton annually.

The principal towns in the interior are:

Huancavelica, population 9,000, 120 miles from Ica. Close to this town is the famous quicksilver mine of Santa Barbara.

Ayacucho, population 10,000, 182 miles from Inca. Remarkable filigree work, and other specimens of the silversmith's art are produced here.

Castrovireyna, some 100 miles from Ica, a mining district of considerable note.

Ica is the highway to all these places.

Ten miles out from Pisco are the **Chincha Islands,** once famous for their guano deposits, from which Peru obtained an immense revenue.

Lomas, 152 miles from Pisco and 201 miles from Mollendo.

Both of these places are but of minor importance, the staple productions of the surrounding country being cattle, which are shipped along the coast in large quantities, minerals, wool and cotton. There are various silver and copper mines being worked in the interior.

Mollendo, the second port of the Republic, is a town of 5,000 inhabitants. It possesses two hotels, and is of considerable importance commercially; as, being the port for Arequipa, Cuzco, etc., as well as for the interior towns of **Bolivia,** it ships large quantities of alpaca and sheep's wool, skins, coca leaves, bark, silver, tin

and copper ores, to the value of about $400,000 annually. It is the western terminus of the railway to Santa Rosa (Cuzco), Puno and La Paz (Bolivia).

Arequipa, the capital of the department, is a city of about 35,000 inhabitants, built at the foot of the extinct volcano Misti (18,650 feet high), and at an altitude of 7,550 feet above the sea level. It is an important commercial city, and not without interest to the visitor; is well built, (the houses being constructed generally of blocks of lava), has a cathedral, a bank, chamber of commerce, theatre, and some good hotels, as well as a club. There are several thermal baths in the immediate neighborhood, and on account of its altitude the town enjoys a pleasant and healthy climate.

Between Arequipa and Puno various silver mines are being profitably worked on a large scale.

From Arequipa the line extends to Puno, a neatly built city of some 6,600 inhabitants, on the shores of Lake Titicaca. Puno is at present the eastern terminus of the railway into Bolivia, though the line is about to be continued to La Paz direct.

The remarkable Lake Titicaca lies across the boundary line between Peru and Bolivia; it is situated at an altitude of 12,500 feet above the sea level, and has an area of over 5,000 square miles. Two fairly commodious steamers ply on the lake regularly in connection with the arrival of the trains at Puno, and convey passengers across to Chililaya (Bolivia), a distance of 90 miles. From Chililaya there is a coach service to La Paz, seven hours distant.

La Paz is now the capital of Bolivia, and al-

most all the commerce with the interior is carried on through that town. It contains some 26,000 inhabitants, and being siuated at a considerable altitude enjoys an agreeable climate, though the surrounding country is barren and poor. There are five fairly good hotels in La Paz.

Sucre, the former capital, is some 70 miles to the south, and is a fairly extensive city, with a population of about 40,000. Near to Sucre is the town of **Potosi,** renowned for its rich silver mines. These mines are said to be inexhaustible and it is claimed that, since they were first systematically worked in 1545, they have produced metal to the value of many hundreds of millions sterling.

"I think it right in the interests of humanity, and especially on behalf of the numerous persons in this country who suffer so terribly from consumption, to draw attention to the great benefit such sufferers would derive if they would undertake the journey to Bolivia. The air in the regions of 'La Paz' Sucre and Oruro is so highly rarefied and dry that it kills the bacilli, the length of time required depending upon the stage the disease has attained; patients in the first or second stage would be completely cured after a short sojourn, but those in the third stage would probably have to remain a few years. No doctors or medicine are required, the air being all that is necessary, although an almost complete abstinence from alcoholic drinks is essential. If persons in the earlier stage of the complaint would go without delay, they would after a few months be able to return completely restored to health. Numerous persons suffering from consumption are annually sent to Italy, etc., where a cure is generally hopeless, whereas, if they would only

undertake the longer journey to Bolivia, they would in most cases regain their health."

Cuzco. The city of **Cuzco** is supposed to have been founded by Manco Capac, the first Inca, in 1043, and it was taken by Pizarro in 1543. The population is about 18,500. Visitors to this interesting locality will find much to attract their attention, as, being, the ancient capital of the Incas, it still possesses many remarkable relics of their empire, particularly the great Temple of the Sun, which furnished such prodigious wealth to the Spanish invaders, the palaces of Manco Capac and his successors, the Inca canal, etc. The ruins of the famous Inca fortress of Saxihuaman attract visitors from all parts of the world. The more modern constructions of note are the cathedral, one of the finest and most remarkable buildings of the kind in the country, the university, museum, cloth factory, and several other buildings. The city is situated at an altitude of 11,000 feet above the sea level.

Cusco exports large quantities of cocoa, chocolate, coffee, vanilla, indigo, sarsaparilla, quinine, and other medicinal barks and herbs, all of which are abundantly produced in the neighborhood. Considerable quantities of gold are also yearly exported from the Carabaya district in the vicinity; and the engineers have been sent out from Europe to survey this with a view to a systematic exploitation of its bidden wealth.

Fifteen miles from Cuzco is the valley of Urubamba, the summer resort of the people of Cuzco, 9,000 feet above the sea level. The celebrated ruins of Ollanta and Tamo, ancient fortifications of the Incas, are situated in this valley.

The regular through steamers call at Mollendo, northbound, every Sunday and Wednesday; going

south, calls are made every Tuesday and Saturday. There is a telegraph cable station there, and land lines communicate with Arequipa, Cuzco and La Paz.

Ilo is a minor port about half way between Mollendo and Arica. Its chief trade is the export of wines, spirits and olives, for which the surrounding districts have a high reputation.

I.

A General Description of the Country.

Peru lies on the western side of South America, between parallels 1° 29' and 19° 13' south of the Equator, and between 64° 15' and 80° 40' 54" west of the Meridian of Paris. Its shores are washed by the Pacific ocean, and its boundaries are the following: On the north, the Republic of Ecuador; on the northeast, the Republic of Colombia; on the east, the United States of Brazil; on the southeast, the Republic of Bolivia, and on the south, the Republic of Chile.

The superficial area of the country is 1,806,891 square kilometers (697,640 square miles). This large area is divided into three distinct zones, viz.: The coast; the **Sierra,** or highlands, and the **Montana,** or forest region.

By reason of these divisions of the territory it possesses every variety of climate, and its geology and topography are such as to give it all the products of the temperate, torrid and frigid zones, which constitute the basis of its internal and external commerce.

II.

Political Organization.

The political organization of Peru is governed by the Constitution of 1860. The form of govern-



A PERUVIAN MAN OF WAR.
3000 tons and 14,000 horse-power, built in 1906 at Barrow in Furness—Speed 24 knots.



STATUE OF ADMIRAL GRAU AT CALLAO.

ment is democratic and representative, founded on unity, and is vested in three powers—Legislative, Executive and Judicial.

The Legislative Power is formed by the Senate and Chamber of Deputies, the Executive is vested in the President of the Republic and his Council of Ministers, and the Judicial comprises the Supreme Court, nine Superior Courts, Justices of the Peace for the districts.

The political division of the territory is as follows: 21 departments, 97 provinces and 788 districts, which are under Prefects, Sub-prefects and Governors, respectively.

III.

INDIVIDUAL GUARANTEES.

(Title IV of the Constitution.)

Art. 16. The law protects life and honor against all unjust aggression, and cannot impose the punishment of death except for willful murder.

Art. 18. No one can be arrested without the written warrant of a competent judge, or of authorities charged with the preservation of public order, except in flagrant delicto; and in all cases the arrested person must be brought before the proper tribunal within twenty-four hours. The servers of the warrant are bound to give a copy of it whenever it is asked for.

Art. 19. Prisons are places of detention, not of punishment. All severity not necessary for secure keeping is prohibited.

Art. 21. All have the right to use the press for the publication of their writings without previous censure, but subject to the responsibility imposed by the law.

Art. 22. The secrecy of letters is inviolable.

Letters that have been seized are not legal evidence.

Art. 23. Every employment, trade, or profession, not opposed either to morals, to health, or to the public safety, can be freely exercised.

Art. 26. Property, whether it be material, intellectual, literary or artistic, is inviolable, and no one can be deprived of his own, except for the public good, legally proved, and with previous fair indemnification.

Art. 27. Useful discoveries are the exclusive property of the inventors, unless they voluntarily agree to sell the secret, or there arises the case of forced expropriation. Those who are merely the introducers of such discoveries shall enjoy the advantages of inventors for the limited time that is conceded in conformity with the law.

Art. 28. **Any foreigner may acquire property in the Republic, in accordance with the law, and in reference to such property he shall have the obligations and the privileges of a Peruvian.**

IV.

CURRENCY.

In accordance with the law of December 14, 1901, Peru has established its currency on a gold basis. The standard of currency is the Peruvian pound, a coin of equal value, size and fineness to the English pound sterling.

All the silver and copper coins that are minted are fractions of a Peruvian pound. The pound, or "libra," is equal to ten "soles" silver.

It is absolutely forbidden to bring into the country silver and copper coins of any denomination whatever; this measure has been taken in order to maintain the gold standard.

The English gold coins, viz., the pound sterling

and the half-pound, have been declared as legal tender in the Republic the same as if they were Peruvian coins of the same denomination.

No paper money exists in Peru. There are no bank notes, and their issue is forbidden by law.

The following is the list of the banks doing business at Lima. These banks have branch offices in several of the more important cities of the Republic.

	Capital.	Paid Up.
Banco del Peru y Londres ..	s2,000,000	s2,000,000
Banco International del Peru	2,000,000	1,000,000
Banco Italiano	1,500,000	750,000
Banco Popular	500,000	500,000
Bancos de los Pobres	300,000	100,000

V

MUNICIPAL GOVERNMENT.

The municipal administration of the Republic is vested in the "Consejos Provinciales" (Provincial Councils) and the "Concejos Distritales" (District Councils).

The former are establshed to regulate administer and inspect the several services of the townships of their jurisdiction in reference to the following departments:

Cleanliness and public health with power to establish and enact such rules and regulations as may be necessary in all public places and private residences and to prevent the sale of all impure food drinks and medicines, or any of inferior qualities.

Supply and maintenance of springs, fountains and hydrants, and the distribution of water both in the town and adjacent country, in so far as these may be open to public use.

Inspection of public roads, so as to determine

their location, direction, and everything relating to public squares, streets and local roads.

Maintenance and embellishment of the towns, markets, slaughter-houses, watering-places for cattle, etc.

Lighting and street cleaning.

Primary instruction throughout the province.

Encouragement and protection of all societies or associations organized in the province for the promotion and progress of science, the arts and industries.

Registry and census of the province and the maintenance and inspection of all standards of weights and measures.

The District Councils exercise in their territory the same attributes as the Provincial Councils and have special charge and care of bridges roads and the schools within their jurisdiction.

In accordance with article 10 of the Law of October 14, 1892, foreigners may become members of the Municipal Councils.

VI.

HYGIENE.

Public health is protected by the vigilance of the Municipal Councils and is under the direct charge of qualified medical practitioners duly appointed and paid by the Provincial Councils.

There is a Supreme Board of Health at the capital of the Republic and Departmental and Provincial Boards in each department and province. These Boards have the control and vigilance of the shipping at the ports of entry.

In the majority of the departmental capitals there are hospitals supported by the benevolent societies where gratuitous medical attendance is given to all classes of suffering humanity.

All the benevolent societies receive and aid foreigners at their establishments.

VII.

MEANS OF COMMUNICATION.

Besides the natural highroads fluvial and terrestrial, that exists in Peru, there are the following railroads in the country:

	Guage	Length Miles
Paita to Piura	Standard	62
Piura to Catacaos	Narrow	6
Pimentel to Chiclayo	Narrow	8
Eten to Ferrenafe and Patapo	Standard	48
Pacasmayo to Guadalupe and Yonan	Standard	57
Salaverry to Trujillo and Ascope	Narrow	47
Huanchaco to Tres Palos	Narrow	23
San Nicholas to Puerto de Supe	Narrow	3
Chimbote to Suchman	Narrow	32
Central of Peru	Standard	137
Callao, Lima and Chorrillos	Standard	17
Lima to Ancon	Standard	23
Lima to Magdalena	Standard	4
Tambo de Mora to Chincha Alta	Narrow	6
Pisco to Ica	Standard	6
Mollendo to Arequipa and Puno to Sicuani	Standard	
Arica and Tacna	Standard	3

There are besides several new railroad lines, some under construction, as, for instance, the Cerro de Pasco Railroad, which is being built by an American company, from the present terminus of the Central Railroad to the rich copper and silver deposits of Cero de Pasco, and others projected such as the lines from Lima to Pisco, from Cerro de Pasco to the coal fields of that region, from the coast to the headwaters of the Amazon.

Public Highroads are being built from several places to the navigable rivers of Eastern Peru, and a good road has been opened in the central region.

Steamship Communication is carried on to the coast of Peru, and with foreign countries, by the following steamship companies:

Names	Nationality	Between What Countries
Pacific Steam Navigation Company	English	England and Pacific Coast
Compania Suc Americana	Chilean	Pacific Coast
Kosmos Line	German	Pacific and Germany
The Merchants Line	English	New York and Pacific
The West Cost of America Line	American	New York and Pacific
The Gulf Line	English	Europe and Pacific
The Lamport & Holt Line	English	Europe and Pacific
Compagnie des Messageries du Pacifique	French	France and Pacific
Hamburg-American Line	German	Hamburg and Pacific

There are, besides, several Peruvian coasting steamers and sailing vessels of all nationalities.

Iquitos, the chief Peruvian fluvial port on the Amazon river, is in direct steamship communication with European ports, New York, and the Brazilian ports of Manaos and Para, by means of the following steamship lines: Booth Line, Red Cross Line, and Amazon Steam Navigation Company.

VIII.

POSTAL AND TELEGRAPH COMMUNICATION.

Peru is a member of the Universal Postal Union, and as such has regular mail communications with all nations of the world.

Two submarine cable companies unite Peru with the outside world—The Central and South American Telegraph Company and the West Coast of America Telegraph Company.

The government has established and equipped telegraph lines in different parts of the country, and this service is also being extended and improved. The land wires have already been laid as far north as Ferranafe, while on the south they reach the boundary line, and on the east to Puerto Bermudez, along the great central route.

THE COAST OF PERU.

The coast of Peru extends along the shores of the Pacific ocean some 1,300 miles.

The country is traversed throughout its entire length by the magnificent chain of the Andes, running parallel to and at a distance that varies from 20 to 100 miles from the coast. The region between is a continuous sandy desert, except where watered by transverse mountain streams, which form the very rich valleys of the coast, from whence the greater part of the agricultural wealth of the country is now obtained.

The coast valleys are very fertile, and form perfect oasis in the arid plains. Their products are exported all over the world by means of railroads to the nearest ports and regular lines of steamers plying along the coast.

The principal agricultural products of this sec-

tion are: **Cane sugar and alcohol, cotton and oil, rice, tobacco, coffee, cacao, wines, and all kinds of fruits and vegetables.** The production of the sugar cane, which is the chief industry, reaches to about 160,000 tons per annum, while the quantity of alcohol manufactured from cane is about 16,000,000 litres. Besides these agricultural products, the coast is rich in charcoal, sulphur, salt, petroleum, phosphates, guano; and towards the slopes of the Andes coal and mineral ores are known to exist in paying quantities.

The following is a list of the principal valleys of the coast, from North to South: Tumbes, La Chira and Piura, Lambayeque and Pacasmayo, Trujillo, Chicama, Santa, Huacho, Chancay, Ijima, Canete, Chincha, Pisco and Ica, Nazca, Camana, Mages, Tambo, Arequipa, Moquegua, Locumba, Tacna, etc.

Each and every one of these, and more specially, Lambayeque, Chicama, Canete, Ica and Mopuegua, **offer a vast and fertile area suitable for immigration.**

The farms in this section, and the larger estates or plantations, have, and some require, good and efficient overseers to direct the agricultural labors on them; besides, there is a constant demand for skilled labor in the shape of **mechanics, sugar-chemists and boilers, distillers, carpenters, blacksmiths, wine-growers,** and workmen in general.

A great many of the farmers and proprietors of estates let out lands under contract, the conditions of which vary slightly, according to the locality, and are more or less as follows:

1. For good lands, having sufficient water supply, the rent would be 25 per cent. of the crops.

2. If the owner supplies oxen, tools, implements



LUIS F. VILLARAN, D.D.L.

Professor of the University of Lima, in its 334th year.



J. H. MIRO QUESADA,
The very able editor and owner of Lima's big daily,
"El Comercio."

and seeds, the rent would be about 50 per cent. of the crops.

3. For the lease of the land the rent per annum would be at the rate of from 30 to 50 soles the fanegada; say, $15 to $25 U. S. currency per 7.10 acres.

4. Lastly, another method consists in the sale to the owner of the land of all crops, at a price previously arranged.

The latter method is much in vogue in cane and cotton plantations, in which cases the crops are sold by the weight and delivered either on the field or alongside of the factory.

All and each of these contracts leave a large margin of profits to the immigrants, and can readiiy give them a small fortune from the very outset, provided they are economical and hard workers.

Immigrants who may possess some independent means can easily obtain further facilities if they engage to cultivate large tracts of land.

The tendency today in the greater part of the estates and farms of Peru is to keep in separate hands the cultivation of the raw material and the preparation of the products for market.

The habitable and cultivable area on the coast might be quadrupled by the construction of irrigation works. At Nasca there are other remains of the work of the ancient Peruvians, and which have been successfully utilized by modern methods. The valley of Nasca is an oasis in a desert plain that covers 4,000 square miles. Nature has only provided a minute water course, dry for many months in the year, yet this region, through the engineering skill of the Incas in the first instance, and the successful work of latter day agriculturists, has been converted into a veritable paradise, teeming with cotton fields, vineyards and fruit

gardens. There are fifteen vine and cotton estates in the Nasca valley. These instances of successful irrigation are mentioned here to show how cultivation was extended in ancient times and how enormous the productiveness of the Peruvian coast might be increased by the judicious execution of similar works at the present day.

The greater part of the desert area is not rock and sand, but land thirsting for water.

Opportunities for Emigrants. In the Highlands of Peru, there are immense opportunities for raising cattle, which is now being done in a very small and poor manner. Cattle raising in fabulous quantities has been made a success in Australia, New Zealand, the Argetine Republic and Chile; while in Peru it has been very backward. There is a chance for big fortunes in this line, as Peru has immense natural pastures, excellent climate, and every facility for grazing.

There are several companies that have been organized by Duncan, Fox & Co., of London, in various parts of South America, stock of which companies have been sold at $10.00 are now worth $85.00. Magellen stock brought only $50.00 and is now worth $238. Stock sold by these people in other companies at $25.00 par is now selling at $380.00. The Chilean Co. and the Argentine Co., also organized by this firm, sold stock at $7.00 which is now worth $88.00. This only goes to show the value of stock raising in parts of S. America. Peru offers better advantages for this than any other part of the Continent.

Agriculture—Undoubtedly Providence has showered with prodigality its blessings upon this Republic. Its mines are inexhaustible, its forests contain, besides a great variety of valuable products, all kinds of excellent and undecayable tim-

ber, and its farming-lands are blessed with wonderful fertility.

The great variety of the agricultural products of Peru is due to the diversity of its climate. In Peru can be grown all the products of the temperate zone of Europe or the United States, as well as those of the tropical regions situated near the Equator.

In fact, on seeing a collection of the agricultural products of Peru one would suppose that it was an agricultural exhibition of different nations, situated in different latitudes. Such is the variety of the products of the Peruvian soil, not only on account of the diversity of climate in its different zones, which comprise all the graduations that exist, from the tropical heat to the cold of the perpetual snow, but also on account of the distinct nature of its lands, some of them covered with a thick layer of vegetable mould or "humus," while others are dry and impregnated with nitrate, of which diversity those who in Peru devote their attention to the exploitation of the soil have known how to take advantage.

1—The region of Sugar-cane and Cotton, which corresponds to the strip of the coast.

2—The region of the Cereals belonging to the temperate zones, which corresponds to the Interandine region, with its plains and table-lands.

3—The Rubber region which is that of the Montana of forest-clad highlands.

Of these three zones into which Peru is topographically divided, that of the coast is for the present the most favorable for agricultural development and is also the one in which it has attained the greatest expansion.

Although situated between the tropics, as already stated, this privileged region enjoys a mild

and agreeable climate, exempt from hurricanes, storms of sudden atmospheric changes.

The Thermometer—In the winter the Thermometer rarely falls below 12 degrees Centigrade (about 54 degrees Fahrenheit); and the nights are always cool, thanks to the constant south winds, and to the fresh breezes from the neighboring Cordillera of the Andes, with its peaks covered with perpetual snow. As rains are unknown in this region, for the little dampness which falls in the winter season does not deserve the name of rain, there is unfortunately, as we have already said, a scarcity of water; but wherever irrigation is possible, the production of the soil is marvellous, and the parts which have remained uncultivated for want of water, or irrigation, retain in their vegetable crust, still intact, rich fertilizing substances, which only require artificial irrigation to become converted into fields of surprising fertility.

The absence of rains, hail and storms, allows the execution of agricultural operations throughout the entire year. Moreover the uniformity of the climate gives to the agriculturist the security of being able to get in his crops, and still more a freedom of action unknown to those who have to struggle against the difficulties caused by the atmospheric changes, and inclemency of climate so frequent in other countries.

The lands lying along the coast of Peru, on account of their nature, the system of irrigation employed and their great fertility, possess conditions for reproduction similar to those of Egpyt which are yearly fertilized by the overflowing of the Nile.

Cold Zones—The temperate or cold zone, that is to say the interandine region, can produce all the known varieties of the principal cereals and

tubers and is also adapted to the breeding of cattle on account of its natural pastures. The land is less fertile and the thickness of the layer of "humus" is less than on the coast-strip, but in the parts where it has been possible to employ artificial irrigation, the soil is very productive. The vast extent of territory called the "Montana," or wooded highlands, is the warmest and lies on an average height of 500 metres above the level of the sea. It has the benefit of perfect natural irrigation, and is rendered fruitful by innumerable streams, which on uniting their waters, form the splendid rivers of the East of Peru which fall into the majestic Amazon. Here is to be found an enormous extent of land covered with a layer of "humus" of more than 15 feet thick, and consequently of astounding productiveness. In this vast section of the Peruvian soil the richness of the land is simply marvelous, and one can hardly believe the accounts given by competent persons who have explored these virgin forests, or even the special reports of the government commissioners.

Fertile Regions—The soil of the Montana region, fertile and productive as it is, only needs capital and labor to produce great wealth, and one may say that there the vegetation is spontaneous. The working-man of good habits, who aspires to improve his position by means of his labor, and with patience to go on accumulating the product of his economy so as to place himself and family safe from want in his old age, would find in this privileged region the means of realizing his desires; in the same way the modest merchant and small tradesman who perceives that he is working at present in a barren and unproductive soil, also exploited by so many others, and that

the results obtained by him do not compensate his toil and much less satisfy his aspirations for a better future, would find in the Amazonian region of Peru a vast field for the exercise of his labor and energy in all the branches of active life not yet exploited there.

The agriculturists arriving at this region should not allow themselves to be seduced by the large profits left by the rubber industry, but should concrete their labor to the cultivation of the soil in the upper lands which are free from the periodical inundations caused by the annual freshets of the rivers. In these spots he would not be exposed to paludic fevers and could devote himself with the certainty of obtaining a big return, to the planting of rubber and cocoa trees and to the cultivation of vanilla and other tropical plants.

Colonising Districts—Peru possesses in the healthful district of the upper Montana magnificent lands for colonization. Some day when these lands are crossed by a railway, which is what the Government proposes to do, the colonizing of this region will become a relatively easy matter. Then we shall see the agricultural products of Peru increase two-fold, five-fold and even one hundred-fold.

Notwithstanding all these favorable and exceptional conditions for the development of native agriculture, we must admit, that, even with all its recent progress, Agriculture in Peru is still in its infancy, and that only a part of the cultivable lands have been made use of. Nor is the system less than on the coast-strip, but in the parts where it has been possible to employ artificial irrigation, the soil is very productive. The vast extent of territory called the "Montana," or wooded highlands, is the warmest and lies at an average height

of 500 metres above the level of the sea. It has the benefit of perfect natural irrigation, and is rendered fruitful by innumerable streams, which on uniting their waters, from the splendid rivers of the East of Peru which fall into the majestic Amazon. Here is to be found an enormous extent of land covered with a layer of "humus" of more than 15 feet thick, and consequently of astounding productiveness. In this vast section of the Peruvian soil the richness of the land is simply wonderful.

Artificial Manures—The want of scientific knowledge on the part of most of the agriculturists, is another of the causes of the slow development of this important industry in Peru, although it is the principal source of the public wealth among nations. Until lately our agriculturists knew nothing about the modern methods of the preparation of the soil and the increase of its fertility by the employment of artificial manures, and so it is that they have never adopted the new and perfected methods of cultivation based on scientific principles, nor have they brought into use modern machinery.

Irrigation—It is true that for the employment in Peru of agricultural machinery, one meets with the difficulty arising from the high cost of the same, and also in case of breakage, or of its getting out of order, the almost impossibility of finding a native blacksmith capable of repairing what has gone wrong; so much so that in most cases the repairs cause great delay and considerable expense on account of the great distance at which the workshops are situated. Another of the very important problems, the proper solution of which must contribute in an effective manner to the development of Agriculture in Peru, especially in

the Coast region, is that of irrigation, because whenever by chance rail falls on the western slopes of the Andes, the rain water, on account of the declivity of the ground, is neither retained nor absorbed gradually, but on the contrary is precipitated along the surface in its course towards the Ocean.

American Engineers—In order to proceed with the greatest correctness in the irrigation of this interesting region, the Government has contracted experienced parties, or hydraulic engineers, in the United States for the government service (U. S. Geological Surveyors).

These engineers, assisted by Peruvian colleagues, have for the last two years been studying the geology of the Coast, the courses of its rivers, rivulets and streams, as well as the subterranean waters, in order to decide as to the best system for the irrigation of the coast, which at present is only practiced on less than 30 per cent of the whole of its surface.

In short, the want of agronomic knowledge is a great obstacle to the agricultural progress of the country in the greater part of the provinces; the ground is sown in accordance with primitive methods, leaving all the rest to its fecundity.

Routine and System—Routine is the great drawback which impedes the advance of the national agriculture. Fortunately of late a healthy reform has commenced in the system of cultivation; books are now read, and the most progressive farmers get out from foreign countries competent specialists. The machinery, and farming instruments, principally of North-American make, are now being imported on a large scale, and the day is not far distant when the Peruvian agriculturists will have at their disposal the same elements as



THE SCHOOL OF ARTS AND TRADES.



THE SMELTING WORKS OF CASAPALCA.

in other countries, and will be able to compete in knowledge and experience with the most advanced of other nations.

With this intention the National School of Agriculture and Veterinary Science was founded in 1902 and in this year only the first pupils of that establishment have taken their diplomas. These young men together with the Peruvians, who have recently returned from the United States of America after graduating as agronomic engineers in the special schools which that Great Republic sustains, will contribute to the hastening of the reforms already commenced, and to the banishing for ever from Peru the antiquated systems of cultivation.

Free Information—The Department distributes among the agriculturists every class of illustrative information respecting the modern systems and processes for the cultivation, irrigation, manuring and drainage of the lands, always taking care to call attention to the products which can be most advantageously cultivated in the different zones of the Republic. For the same purpose the Department of Fomento puts into circulation monthly a special boletin of Agriculture and besides this it publishes from time to time important pamphlets treating of certain points of special interest for the advancement of Peruvian agriculture; these pamphlets are profusely distributed among the agriculturists. The National Society of Agriculture follows out the same plan by the publication of a newspaper.

With the same object in view, the Department of Fomento imports seeds and special plants from other parts of the world, and assists the agriculturists in fighting against the plagues and diseases which sometimes attack the growing crops.

The extent of the cultivable lands on the coast of Peru exceeds 49,422,000 acres, and of these only about 1,482,660 are under cultivation, on account of the want of water, which is distributed in accordance with a special code, which has been recently reformed so as to diminish this difficulty, which delays the progress of agriculture on the coast, as its development is closely dependent upon irrigation.

Land Concessions—The laws now in force authorize the government to grant concessions of water and lands, on very liberal conditions which are highly advantageous to all those who desire to acquire lands and devote themselves to Agriculture in this country, the soil of which only awaits the laborers to draw from it the sap which is their treasure, and the intelligence necessary for a wise direction of the labor employed in order to obtain abundant fruits.

The extensive Peruvian territory, with its variety of climates and great diversity of products of the three kingdoms, offers special inducements to immigrants, while the liberal laws on the subject of colonization, ownership of forest lands, mining properties and irrigation, are such as to prove, by their very advantageous conditions, how eager are the Government and people of Peru to direct towards the country a stream of good colonists and a share of the surplus capital of other countries.

The important question of immigration, and especially that of establishing industrial colonies in the Republic, is the natural aim of the Government. To attain this end, which signifies the economic development of the country, the Government has been untiring in its efforts and endeavors. Roads have been opened in different di-

rections, railroads have been projected and are to be constructed, and everywhere there is a revival of agricultural and mining pursuits.

The laws of Peru concede exclusive rights to nobody; foreigners and natives are treated alike and possess the same civil rights.

An immigrant can obtain real estate and become the owner of land in any portion of Peru. His work cannot be interfered with. He is protected by the laws, and he is only requested to accept them as they are and to conform to their provision.

Besides colonists, there is room in Peru for good and steady artisans. Carpenters, blacksmiths, mechanics, etc., earn from two to four soles per day, according to their ability and demand.

In the workshops and factories wages are higher than in other South American countries, and as there is a scarcity of available workmen, good hands are always certain of constant employment.

THE CENTRAL ROUTE OF PERU.

Among the several regions of Peru, one that offers greater advantages to immigration is that which is crossed by the "Ceniral Route," from San Luis de Shuaro to Iquitos. This route has been built at a great expense and after overcoming great difficulties, stands out as a proof of the untiring energy and zeal of the Government that carried it out. The colossal undertaking solves the problem of rapid, direct and easy communication between the Pacific and Atlantic oceans, and forms a double outlet for the products of the three distinct zones into which the country is divided—the coast, the sierra (or mountain) highlands, and the montana or (forest) region. The lands on either side of this highroad, which until the River Azupizu is

reached are hilly, and afterwards more or less flat, can be taken up already and developed by either utilizing the natural products of the region, viz., rubber of several kinds, gums, resins, cabinet and construction woods, medicinal plants and dye woods, or by the cultivation of cocoa, coffee, sugar-cane, cocoa and other valuable products adaptable to the climate.

FOREST LANDS.

The forest lands called 'Montana," covers the Eastern region and all of the territory of the navigable rivers up to the Andes Mountains, forming a vast territory, of more than one million kilometers square and includes the department of Loreta and all the parts and provinces extending south to Sandia.

The ground is covered with immense forests which are crossed and cut by rivers and streams which flowing one into the other invariably form large navigable rivers which in turn forms the source of the largest river of the world, the Amazon.

The exuberance of vegetation of these forest lands is beyond description. It is sufficient to say that there are produced without any cultivation, trees of all sorts, fruit trees and woods of use to commerce. The ground is so fertile that when once cleared it will be completely covered over in a few days with new vegetation. The rains are very abundant and favor this exceptional production. No cultivation is necessary, nor artificial watering in these forest lands. It is sufficient to plant the seed and the ground, aided by the abundant rains will force the growth of the seed with surprising strength and fertility.

Treasures in the Forests.—It is sufficient to men-

tion the following classes of trees: 1.—**Lumber** for construction. 2.—Medicinal plants. 3.—All sorts of aromatic plants. 4.—**Fibres.** 5.—**Dye Woods.** 6.—**Rosins.** 7.—**Medicinal woods.** 8.—**Gums** and **Rubber.** In each one of these classes is included an immense number of families and in these forests are produced, naturally, **Cascarilla bark,** the **Balsams, Rosins, Rubber gums, Sarsaparilla, Vanilla,** etc. with astonishing profusion. Cedar and also all sorts of hard wood are found in an incredible variety and quantity.

In spite of these immensely rich regions, these valuable lands are entirely uninhabited, owing to the population of Peru being very scarce. It is only the borders of these rivers, that is the most important of them, that contain a population of 100,000 people, who, as a rule, work in extracting rubber.

The Nation's Call.—Peru makes a universal call to settlers and wishes them to come and inhabit this region and exploit its riches, which today, are found abandoned for want of people. When colonies are once established, formed of healthy and robust people, the riches of this property will yield them immense returns.

THE REGION OF THE YUCAYALI.

Our Great River.—This river including its tributaries is the actual source of the Amazon River. The width of the Yucayali is between one thousand and one thousand two hundred yards wide. Its average depth is never less than eighteen feet and it is navigable for steamers for nearly one thousand miles.

Richest Rubber Region.—This region is without doubt the richest in rubber trees in all the Republic. Its abundance of fine rubber trees will

yield immediate and large profits. Around the neighborhood of this great river and its tributaries there are immense territories in which the foot of a man has never trod. Any person, at little cost of labor or trouble, can establish himself therein and carve for himself a profitable future. It is calculated that a piece of ground three miles square contains in the neighborhood of three million trees of different species, the most important of which, are those yielding caucho and fine rubber.

Varieties of Rubber Trees.—In the highland of this territory are found the caucho trees and in the lowlands trees yielding the fine rubber are always on the borders of the rivers which renders transportation extremely convenient. There are several varieties of trees which produce the caucho and also a great number of plants that resemble the caucho and which yield good rubber. There are also a number of different trees which produce fine rubber, being whiter and finer grained than the common caucho. In this neighborhood the fine rubber tree has a plain, smooth trunk to a height of 90 feet, more or less, and is from two to six feet thick. All rubber taken from this region can be sold at the city at $22 for 15 kilos.

It has been customary in Peru, for the native tappers to destroy the common caucho trees by felling them within a few feet of its roots. These trees would then bleed to death, yielding a quantity of rubber sap, sometimes as much as fifty to one hunderd pounds. It is now forbidden by law to destroy these trees.

A fine rubber tree will not yield sap if cut down. It is an actual fact that this part of Peru has an advantage over other parts of S. America, in that it has a greater abundance of fine rubber yielding trees than the common caucho. In

Peru, to-day, very few rubber plantations are being worked.

TARNA..

A Mountain City.—As has already been mentioned the journey from Callao to Oroya by railroad (220 kilometrs) occupies one day. From Oroya, the present terminus of the Central Railroad, the traveler goes to Tarna on mule or horseback, a distance of three hours. Tarna is one of the most prosperous commercial cities of the Department of Junin, it has from 8,000 to 10,000 inhabitants, is very healthful, has good schools, and is full of resources. Seventy-eight kilometers from Tarna lies the fertile Chanchamayo Valley. A good bridle-path leads to it, and the distance can be covered very comfortably in ten or twelve hours. It is at Chanchamayo that the forest region may be said to begin. This valley stands at 3,285 feet above sea-level, and it has a beautiful climate.

Vegetation is exuberant here, and all and every kind of tropical fruits are easily raised.

Modern Farms.—There are several valuable sugar, coffee and cocoa plantations, with modern machinery and magnificent dwelling houses in the valley. A few years ago their owners arrived there with no other means than their own energy and perseverance, and today they are well-to-do and prosperous members of a prospeous community.

The New and Valuable Source of Wealth for Men of Capital and Energy.

The Peruvian rubber industry, although not new in the history of the country, rubber having been extracted for many years past from the forest

regions bordering on the Amazon, may be said, nevertheless, to constitute a new industry in the country, as it is only within the last five years that the Government has given it any decided attention. The recent explorations into the forest regions of the Departments of Cuzco, Junin, Puno and Huanuco have given the most satisfactory results, and it is today a known fact that rubber of good commercial quality exists in abundance in these departments, as well as in Loretto, the vast department through which the mighty Amazon enters into Peru.

Fixed Laws for Rubber Lands.—The Government wishing to give every possible inducement to capitalists and men of enterprise to develop this great source of wealth, has established by law fixed rules to govern the exploitation and extraction of rubber within its territory. And the Department of Encouragement and Public Works has been kept quite busy within the last few years —since the promulgation of the law of December 21, 1898—examining the titles of parties who, in acordance with the said law, claiming the rights of ownership to rubber lands in the Republic.

There are two ways of acquiring rubber properties in Peru, and as (according to the Constitution of the Republic) foreigners have the same right and privileges as natives for the acquisition of real estate, lands, mines and property of every description it is very important for would-be investors in Peruvian enterprises to know how such property may be acquired.

Rubber Leases.—The law has established that the acquisition of rubber lands may be obtained, first, by the lease of lands containing rubber-bearing trees, and second, by the lease of lots of rub-



A Chemical Laboratory



View of the Plaza, showing Cathedral which contains the bones of Pizarro, the Conqueror. This ancient edifice is nearly four hundred years old

ber **estradas,** that is, groups of one hundred and fifty trees.

In the first instance the Government grants a ten-year lease of a certain number of hectares of forest land, but with the express injunction that no trees are to be cut down or destroyed; the lessee is to pay the Government a royalty at the rate of two soles for every forty-six kilograms (about 100 pounds) of rubber extracted; this royalty must be paid at the time of exporting, together with the export duties to which all rubber leaving Peru is subject. (The export duties are the following: Jebe, viz., fine rubber, 8 centavos Peruvian currency per kilogram; caucho, viz., India rubber, 5 centavos Peruvian currency per kilogram.)

Rent in Estradas.—In the second instance the Government grants a lease of a certain number of rubber **estradas,** that is to say, of a certain number of lots containing one hundred and fifty rubber trees each, at the rate of twenty centavos Peruvian currency(say ten cents American currency) for each **estrada** per annum, and another twenty centavos for each hectare (two acres [171]) of land on which the trees are located. For example, if ten **estradas** have been measured off, embracing an area of 20 hectares (about 49½ acres), the yearly rental would be six soles, say three dollars United States currency.

It is very important to bear in mind that the contracts in either case are only perfected when the Government has approved the plans made by the expert, previously proposed by the lessee, and accepted by the Government.

Bonds as Guarantee.—The bond or guarantee which is mentioned in the contracts is at the rate of one sole of nominal value in bonds of the In-

ternal Debt per hectare of land, and at the rate of five soles, also of nominal value, when dealing in "estradas." This is by no means an onerous condition, as it is an interest-bearing capital which accumulates in favor of the lessee.

It should not be forgotten that by the decision of July 2, 1900, the order in which the claims are filed does not govern the location of the lots, but that these are located and granted solely on the approval of the plans, as previously stated. It is therefore to be understood that the Government recognizes the contract as perfected when it has accepted the measurement and location by the properly constituted and appointed expert, going only by the accuracy of the work done, and whenever the plans thus drawn up do not interfere with other concessions previously perfected.

Bona-fide Investors Protected.—This decision has undoubtedly been given with a view to protect would-be **bona fide** investors against speculators who owing to lack of funds for carrying out all preliminary operations might prejudice the activity and means which the former may possess. Therefore the lessee who does not wish to accept one on land of small value, should hasten to propose an expert and get ahead with the work of measurement and the drawing up of plans for the Government to complete the contract, so that without loss of time, it may begin to have the desired effect.

This action of the Peruvian Government in reference to the leasing of rubber lands would prove to what an extent it is desirous of protecting the rubber industry. In fact, the first form of lease—that which establishes the payment of a two soles royalty for every forty-six kilograms of rubber extracted—is liberal to an extreme, because, as rub-

ber constitutes one of the most valuable and noble articles of commerce, it is only reasonable that the Government whose territory is the fortunate possessor of such a product should participate in a degree proportionate with the profits to be derived from its exploitation.

The other form of contract is equally liberal. Nobody can say that an **estrada** of 150 trees, at ten cents American currency, is exorbitant,— nor that it is an unjust imposition to exact a further payment of ten cents for two and one-half acres of forest region; besides, this small tax will help to prevent great tracts of land being taken up with a reduced number of **estradas.**

Rubber Industry.—Throughout the vast and beautiful wooded region teeming with the exuberance of an eternal spring in all its wonderful fertility, there grow spontaneously divers kinds and varieties of the rubber tree, many of which have not as yet been studied by botanists. Indeed, on the banks of all the rivers and rivulets which directly or indirectly empty themselves into the Amazon is to be found this coveted tree where-from is drawn jebe in the low-lying and swampy districts, and caucho together with other varying kinds of jebe in the higher districts about 300 feet or more above sea level. In certain regions like that of the Madre de Dios, the Manu the Inambari, the Tambopata, etc., rubber trees are found in abundance.

Caucho is obtained by felling the tree near a hole previously made in the ground to receive the milk (juice) which then undergoes a process or coagulation by means of a solution of soap and the juice of a native plant known as "vetilla." Each tree furnishes on an average 20 kilos of caucho which is exported in the form of planks

each one of which weight from 40 to 50 kilos. The kind chiefly worked in order to procure caucho is the castilloa elastica.

Fine Para Called Jebe is extracted from the great variety of trees of the "hebeas" species which are almost always found in the regions where caucho spontaneously grows. The milk (juice) is extracted by inflicting incisions in a spiral form around the whole trunk and it is smoked by burning a plant called "humiro" or marfil vegetal," it being exported thereafter in balls. The residue left after the preparation of the "jebe" is also exported and is known in trade as "sernambi." The seringas, that is, the "heveas" are generally from 20 to 25 metres high, their trunk is cylinrical, and their quality is decided by the color of the milk (juice) the better kind being of a violet color and the inferior of a red and whittish appearance. As regards the quality of jebe furnished by each tree, this depends among other circumstances on the age of the tree and the quality of the soil and denseness of the forest; but the average production may be calculated at 10 kilos (20 lbs.) a year per tree in Peru.

It is thus seen that "caucho" and "jebe" are analogous natural products the only difference between them being that in the latter the elasticity is much greater than in the former, on which account it commands in European and North American markets a price 50 per cent higher than "caucho". Jebe by reason of its being a finer product is the one used in delicate manufactures.

The exploitation of caucho and jebe is doubtless one of the most lucrative industries in South America. Its different uses in electricity, its ever-increasing employment is the making of automobiles and in a multitude of other modern industries

cause a yearly increase in the demand, its price advancing according to the consumption of this unreplaceable product in the making of diverse chirurgical appliances and manufactures. It may be said that at the present time there is a general hunger for "jebe."

Planting Rubber.—Although the scientific rearing of these plants and their methorical exploitation has been carried on with very satisfactory success in Ceylon, Java, Borneo, and also in Africa, the same has not as yet been put into practice in Peru. The adoption of such planting will give new fields of research to this national industry. As soon as this modern branch of agriculture is initiated in the splendid soil of the woodlands which possess such exceptionally favorable conditions for the flourishing of rubber tree plantations, the profits obtained by the national agriculture will be enormous and acquire an incalculable future.

In Ceylon under the scientific direction of English agricultural engineers, and in Java under the Dutch, 500 trees per hectare are planted of the most valuable kind called Para Fino. The trees reach maturity in five years, at the expiration of which time the "jebe" is drawn and exported chiefly to England.

In order to furnish an idea of the rapidity manifest in the increase of the rubber industry in Ceylon, we may state that in 1905 four million seeds of the "Para Fino" kind are imported; all the seeds were sold at the rate of one penny each, their being great contention to secure their purchase. It is reckoned that in that year the extent of the rubber plantations in Ceylon was increased by 50,000 hectares, and the same increase is calculated to have taken place in the Asiatic

Archipelago. It is thus undoubtable that when once the cultivation of these trees under scientific direction is established in our woodland region, the exploitation of rubber will become a mighty source of wealth.

The Moderate Duty which is levied on the exportation of all kinds of rubber; this duty is 8 centaves per kilo of "jebe" and 5 per kilo of cautchouc and "sernambi," whilst in Brazil the exportation of this product is taxed with a duty ad valorem of 24 per cent which represents nearly 40 centavos per kilo of "jebe." In Bolivia the duty is as high as 16 centavos. In 1905 there were exported 540,000 kilos, the greater part of which was sent to the United States.

The Madre de Dios Syndicate composed of Peruvian capitalists, have thoroughly explored a certain portion of the Madre de Dios river in the southern part of Peru, wherein they discovered vast forests of rubber of various sorts and quantities. So important has been this discovery that a company was organized in Lima, in 1906 to build a road from the railroad going to Cusco to the borders of the Madre de Dios River. This road has now been completed as far as the Nosiniscato Gold Placers, belonging to an Ohio Corporation, and is expected to reach the rubber forests within a few months.

His Excellency, President Pardo, realizing the value of these rubber discoveries, has subsidized the said syndicate with $1,500,000 in order to enable it to convert the road into a railroad and is also granting the syndicate 2,471,110 acres of rubber forests. This is the largest rubber concession granted so far in South America and one of enormous value, as it will open up the whole of the Acre District and enable rubber and mer-

chandise to be shipped there by the Pacific Ocean or down the Yucayali River to the inland Port of Iquitos.

Up to the present, however, no foreign or national company has undertaken the rearing of these trees with a view to forming real rubber estates and thus being able to reap the output in a regular and systematic way. One hectare of land comprises, according to the experience acquired in Ceylon and the other places we have mentioned as dedicated to this industry, 500 rubber trees. The yearly regular output is 5600 kilos of jebe which represents according to the actual price of jebe at least £ 1000 or 500 dollars. In the vast wooded region of Peru there are high-lying lands which on this account or circumstance are never inundated by the rising and overflowing of the rivers, are perfectly healthy and free from malaria and other diseases which afflict Europeans or the descendants of European races in the low-lying and swampy tracts of the Amazonian basin. The climate of these high-lying lands is mild and benign and may be compared with that of the European midday.

Once the rearing of rubber trees is undertaken in those regions Peru will be endowed with a new source of wealth and prosperity, the importance and magnitude of which is as yet difficult to realize, especially when we consider that the initiation of the exploitation of rubber must unfailingly be followed by that of vanilla and other valuable products peculiar to that privileged region.

The Caoutchouc, or India Rubber tree is a native of Peru, and is to be found in several parts of the Republic. According to Mr. Spruce, who is known to be the highest authority on India rubber

trees, the forests of Peru throughout the Amazonian basin up to the foot of the Eastern Andes contain vast forests of **hevea** trees, from which the best rubber is extracted. In Peru there are several species of rubber-bearing trees, and new specimens have quite recently been discovered which are supposed to contain rubber of the highest commercial value, but the two species which are most commonly found are the **hevea guianensis,** also called **seringa,** from which the **jebe,** or fine rubber is extracted, and the caoutchouc, called **caucho.** The trees grow in families or groups, and often as many as one hundred trees can be found growing at short distances apart. The **hevea** is known to attain a height of over sixty feet, while the **caoutchuoc** does not exceed forty-six feet. The tapping of both kinds is renewed daily during four to five months, and the supply of gum increases to the end of the third month. When the supply decreases the trees should be given a month's rest, and it is stated by the natives and authorities on the subject, that, if properly tapped, the groups can last for twenty years. At the most productive period 150 trees, an **estrada,** can yield on an average 35 pounds of rubber per day.

Liberal Laws.—As a consequence of the liberal laws of Peru in connection with the important industry several corporations have been organized quite recently, both with native and foreign capital. Among them are deserving of mention the Compania Gomera de Inambari Messrs. Villalva & Co., Messrs. Poras & Co., the Bajo Inambari Company, Messrs, Forga & Sons, Messrs. A. Kitz & Co., which are all in active exploitation. Contracts have been perfected with American, German, French, English, Italian and other foreign capitalists and enterprising men for the develop-



Principal street of Lima, Peru



A View of the Market Place. Lima, Peru



Cotton Fields of Piura, where Egyptian Cotton is grown successfully

ment of rubber properties, so that this industry may be said to have been placed on a solid basis.

Vast Rubber Forests.—As has been mentioned before, the rubber forests of Peru are abundant and vast and extend over a very large area comprising many thousands of miles. The Rivers Inambari and Tambopata, in the Department of Puno, are attracting at present great attention, as their banks are literally covered with rubber forests. And the same may be said of the Pichis, and also the Palcazu and Mayro, in the Departments of Junin and Huanuco. As navigation is possible on nearly all of the Peruvian rivers, the transportation of the rubber is easily accomplished, and this constitutes a further inducement to would-be operators in Peru who will have nothing to fear from cost of transportation and gathering.

Roads in Peru.—The Government has also entered into contracts with Messrs. Forga & Sons, Gibson and Delvallee, and the Compania Gomera Inambari, for the construction of roads to their several properties, and with this increased facility the rubber industry in Southern Peru will undoubtedly show very shortly substantial returns to the enterprising pioneers.

Vegetable Products.—We shall now proceed to review the vegetable products of Peru; but such a review, on account of their great variety, would be equivalent to giving the names of all the agricultural products of the five parts of the world, and consequently to writing a complete treatise on Botany. We therefore find ourselves compelled to limit our observations to the principal products which at present form the basis of the agricultural exports of Peru, as an examination of the exports of a country is one of the surest methods for obtaining a knowledge of its wealth and resources.

The Olive Tree.—The cultivation of the olive tree is the only industry which so far has reached certain importance in the valleys of Camana, Ilo, Moquegua, and the neighborhood of Lima. The olive tree was imported from Spain from the plants of Ajarfe from Sevilla, and of the plants introduced by the Spaniards is the one that has become best acclimatized in Peru, it being today a specialty on account of its size, richness, and quality, and indeed it far exceeds the best olives produced in Sevilla and California. From each 100 kilograms of fruit an average of 30 per cent oil is extracted.

The olives from Ilo sent to the last Paris Universal Exhibition took the large gold medal.

Notwithstanding this fact and the good profits derived from the sale and exportation of this fruit, the plantations existing in Peru date back to colonial times and are not of great importance.

The elaboration of oil is in a sadly backward state inasmuch as the system established by the Spaniards is still in effect. Modern machinery and advanced methods have not as yet been introduced into the country.

There is a great deal to be accomplished in the olive industry which is destined to prove very lucrative. Its exploitation by competent persons experienced in the elaboration of oil, would return great profits.

Sugar—In few countries are the climate and soil so propitious to the cultivation of Sugar-cane, as they are on the Peruvian coast.

The circumstances of the irrigation being artificial allows of the plants being watered or left dry at discretion, without the agriculturist being troubled by rains or droughts as in other places. For

this reason the cutting of the cane takes place in the valleys on the coast of Peru, without interruption during the whole year, which allows the farmer to keep his mill working all the time and to make Sugar during every day of the year, with the only stoppage that may be caused by something going wrong with the machinery.

The cultivation of Sugar has extended along the entire coast of Peru; in the Andean region the Sugar-cane is cultivated in the deep valleys which cross the table-lands; there are also Sugar-plantations in the region of the Montana; but where they have reached an immense development is in the Coast region. In all this zone the Cane is cut and ground at 18 months after being planted and usually produces three crops, although there are some valleys in which the cane has been cut during various successive years to such an extreme that no one could say who originally planted it. The canes when well cultivated contain even more than 14 per cent of Sugar and yield an average of 7 to 9000 kilograms of Sugar to each hectare. This enormous return has never been surpassed in any country in the world, and might still be increased by an improved system of cultivation of the cane, and of the process of the making of the Sugar by the employment of more powerful and perfect machinery.

American Planters—Some day when the planters of Sugar-cane in Louisiana become aware of the exceptional conditions which this strip of land offers for the cultivation of this plant it is more than probable that they will extend their plantations to this privileged zone in Peru, invading it with capital and energy, just as they have done in Mexico, once they have all the land suited to this cultivation in Louisiana all planted with

cane. The total value of the Sugar annually produced in Peru may be calculated at the round sum of 8 millions of dollars.

Sugar Factories.—There is room for several more central factories for grinding and treating the cane, and if properly installed are certain to give good returns.

Such factories do not occupy too much space; they are independent of cultivation, manufacture sugar and alchohol, with a return of 25 to 35 per cent. of the product, or else they purchase the cane by the weight and treat it for their own account.

All existing establishments for the treatment of sugar cane and the cleaning of cotton are making good profits, and some of them have already yielded annual dividends of from 13 to 22 per cent.

Cotton.—Cotton occupies the second place in the agricultural exports of Peru; its cultivation dates from time immemorial, as is proved by the cotton stuffs constantly found in the tombs of the prehistoric inhabitants of the country.

In few places it is possible to meet a number of circumstances so favorable to the cultivation of the different varieties of this textile plant, as those in the valleys situated along the coast in Peru. The classes cultivated in this country are various, viz: that called Peruvian Cotton (gossypium peruvianum) a variety growing exclusively in Peru; the (gossypium herbaceum) called in the United States "Upland" and in Peru "Egyptian;" the "Sea-Island" and "Mitafifi" which are varieties of the "gossypium barbadense." The first named kind is grown at present on a large scale, chiefly in the valleys of Piura, with a very satisfactory result. The plant is a tree-like variety which reaches three to five metres in height; its existence may be put down as 6 years, as from that period the crop

begins to fall off and the capsule or boil contains then more seed than cotton.

This kind can stand better the want of water than that of "Egypt," so much so that on good lands one watering only is sufficient to ensure a good crop;—while the "Egyptian" cotton (Upland) gives a better result if frequently watered.

Method of Planting Cotton.—The Cotton-plant is sown in small holes, 5 to 7 meters apart; the ground is not ploughed and is watered by ditches which receive the water from the river La Chira. The spaces left free between the cotton-plants are used for sowing various vegetables such as melons, pumpkins, beans, Maize, etc., etc. After about 18 months, the first crop, which is generally a small one, is obtained; but the crops go on increasing each year until the sixth is reached when the production commences to fall off. The fibre is long and frequently exceeds 35 millimetres, but it is rough; so much so that in the English Markets it is known by the name of "Full Rough Peruvian," and its roughness is greater in proportion to the proximity of the plantation to the sea; when it is carded it looks so much like wool that it is frequently confounded with it in the stuffs woven with this cotton and with wool, so much so that only a chemical analysis can show which are the fibres of cotton, for which reason the manufacturers of woollen goods, prefer to purchase this cotton and to employ it in the manufacture of their stuffs.

The Production of This Cotton may be calculated on an average as 1715 tons of ginned and cleaned Cotton. This Cotton naturally obtains higher prices than the "Egypt" class; the "Full Rough" some 30 per cent more, and the Moderate Rough 15 per cent. The principal markets for

its sale are the United States and Great Britain. The varieties of the "gossypium barbadense," Sea Island and Hitafifi, require special machinery for their ginning and command higher prices.

The cultivation of the Cotton called "Egypt" or Upland which we may qualify as "soft", has become perfectly acclimatized in all the valleys along the Coast of Peru. It grows in the form of a shrub which reaches a height of a meter to a meter and a half and its cultivation has now extended along the whole Peruvian coast. This plant has two years of useful life which in some few places is prolonged to three but the yield of the third year is very much reduced and is of inferior quality.

No Ball-Weevil.—Besides the great advantage of its not being necessary to renew each year the plantation as is unavoidable in the United States for there the plant only yields one crop, it has in Peru the immense advantage of not being attacked by any plague; as the ball-weevil and ball-worm, which commit such ravages on the strip of land devoted to the cultivation of Cotton (Upland) in the United States, are unknown in Peru.

Cotton Factories.—This is a most profitable and flourishing industry, and one which calls for small capital. The cotton plantations are numerous all along the coast, especially in the departments of Piura, Lima, Ica and Arequipa. The ginning and pressing of the cotton, the extraction of the oil from the seed, being undertaken by the growers themselves; but it would undoubtedly pay well to establish a greater number of modern gins and oil plants.

Spinning Mills.—At present there are only six cotton mills in Peru—at Lima, Ica and Arequipa—

and they supply one-fifth of the consumption. These mills have an aggregate of 1140 looms.

The production of raw cotton in Peru has greatly increased during the last five years. In 1897 the exports amounted to 12,314,915 pounds, and in 1901 to 17,661,050, while the quantity used in the home consumption during the same period rose from 176,4480 to 352,960 pounds.

Coca—This plant which we may justly term a marvellous one, is a native of the warm valleys of Peru and Bolivia, and the Indians from time immemorial use its dried leaves for chewing.

The plant grows in the form of a shrub and seldom exceeds 6 feet in height. Its cultivation has extended considerably in Peru because the use of its leaves is very general among the native Indians and now still more so, as the method of extracting the useful drug cocaina is thoroughly understood. This plant is chiefly cultivated in the districts of Otuzco, Huamachuco, Huanuco, Tarma, Huanta, Cuzco, etc., etc. Its cultivation has also been extended to the warm valleys of Bolivia and on a lesser scale to those of Ecuador, and of the south of Columbia where the Guajiro Indians also keep up the custom of chewing its leaves.

The Cultivation of the Coca plant is particular. In Peru preference is given to the valleys of which the height is between 1000 and 2000 meters above the level of the sea, and in which the temperature does not fall below 18 degrees, or rise above 30 degrees Centigrade; always taking care to see that the land is argillaceous, abundant in iron and devoid of all kinds of salts, as the yield of leaves, in which the crop consists, is more abundant and of better class, wherever there is accumulated the greater quantity of vegetable soil. But even under these conditions the cultivators

must take care that the ground be soft and loose; also that it does not retain water so as to become damp and much less swampy. For this reason instead of choosing the plains situated along the bottom of the valleys they prefer the sides of the hills, taking care that the clay soil be not too scanty or situated upon calcareous ground; it is also necessary that rains should fall frequently in accordance with the productive conditions of the land. The first crop is obtained after 18 months, and when the leaves have ceased to grow they take a yellowish tint and lose their softness.

Coca.—The collection of the leaves requires great care as they have to be gathered one by one, taking great care at the same time not to injure the plant. The individual who has charge of this operation places a mantle alongside each plant and goes on throwing into it the leaves that he gathers, only leaving those on the upper part of the plant so that it may not die off. The first crop is limited and the leaves are of inferior quality; but the succeeding ones are more plentiful; as a rule some three or four crops are obtained each year. The preservation of the leaves is a very delicate matter as they cannot be packed too dry for fear of their becoming reduced to powder, nor must they be at all damp as in that case decomposition would set in.

All the attempts to acclimatize this plant of Peru have proved unavailing, and it would seem that Nature has wished to preserve the cultivation of this plant exclusively for the benefit of Peru and Bolivia. When taken in infusion Coca is a slight stimulant, generally accompanied by want of sleep, but when it is chewed its effect is slow



Tapping Rubber Trees in Peru; showing the little tin cups, which catch the daily morning flow of sap



A Mining Camp on the Andes Mountains in Peru

and lasting, sustaining the strength without necessity of food.

Wonderful Stimulant.—In fact, we constantly see the Indians with very little food, and frequently without any at all, perform extraordinary journeys and labor unceasingly in large agricultural and mining tasks. In view of these circumstances, many persons have proposed the use of Coca in the armies, and we can strongly recommend its adoption, being convinced that it would considerably relieve the condition of soldiers on the march, who frequently are exposed to great fatigue and hunger, besides having to put up with the inclemency of the weather.

Medical Effects.—Taken with tea it excites perspiration, and acts as a sedative for those affected with asthma; when taken in the form of an infusion it systematizes the functions of the stomach. The Indians assert that Coca is a preservative against syphilis, and this would appear to be correct as it is very rarely that we come across an Indian who is suffering from venereal diseases which are so common among the whites and blacks. The curative effects attributed to the Coca are innumerable, so much so that during the colonial period the Spaniards being unable to explain its numberless qualities, and blinded by their fanaticism, attributed these to the intervention of the Devil and prohibited its cultivation.

In short this valuable plant possesses the penetrating aroma belonging to the stimulating vegetables, the astrictive and strengthening effects of the astringents, antispasmodic virtues of the bitters, besides the nutritive mucilage of the analeptics or nutritious plants.

All the historians of Peru have made mention of the Coca leaf and many clever persons have

written about its extraordinary qualities, among these the first to study the constituent principles of the Coca leaves was the renowned Peruvian doctor don Hipolito Unanue, and more recently the clever doctor don Luis Carranza, also a Peruvian.

Albert Nieman.—In 1859 the Austrian chemist Albert Nieman extracted from the Coca leaves a new alcaloid which he called Cocaina, and which today is much used in medicine. Latterly some other alcaloids have been extracted from the leaves of this plant viz: Cocaidina, Ecgonine and Hygrine.

It is impossible as yet to say to what degree of importance the cutivation of this valuable plant may attain; but one may safely affirm that it has a great future before it. It is difficult to form a correct idea of the amount of the Coca crop in Peru. After supplying the local consumption the exports in 1905 were 341,000 kilograms in the form of leaves and 6,800 kilograms in Cocaina, all of which represent a value of more than £200,000. The consumption by each adult in the habit of chewing cocoa may be put down as 15 to 20 grammes, and the quantity employed in the manufacture of Cocaina is considerable. The export to Europe and the United States is made in two forms; in that of Cocaina, and in that of dried leaves, not only for the extraction of the alcaloid but for making wines, tonics, elixir and other medicinal syrups.

Rice.—The cultivation of this grain dates from the Colonial period, and during the last few years owing to the heavy protective duties, has attained to great importance in the warm districts of the northern Coast. As regards its quality it may be stated without hesitation that it is

at least equal to the best kinds produced in other parts of the world. Two varieties are cultivated, viz: that called "Carolina" and that of Jamaica.

In the Department of Lambayeque, and in the province of Pacasmayo, the best kind is obtained, and these are the centres in which it is produced with most abundance.

The rice crop, as regards the amount of its yield is the most uncertain of all the production of Peru, as its abundance or scarcity depends upon the necessary watering which is a matter not under the control of the agriculturist but subject to the advance or delay in the water-flow of the rivers. Owing to this circumstance the yield varies extremely from one year to another.

The average amount of the annual crop may with prudence be put down as about 3000 tons. In 1905 it only reached 2641 tons.

The total value of the annual yield of rice may be put down as $2,250,000. The straw obtained by hulling the rice, and which in the United States is used for the manufacture of paper and other industrial purpose, is not yet made use of in Peru.

Tobacco—Although in Peru there are lands which are suitable and the climate is favorable for the cultivation of this valuable plant, its production has not increased as much as might have been expected.

The Tobacco grown in Jaen, Tumbes, Jeveros and Huancabamba, is of superior quality, and is that which is preferred for smoking in Peru. The first named class serves for mixing with other milder tobaccos for the manufacture of cigars and cigarettes, which under different marks are consumed in the country.

The real truth is that the cultivation of this

profitable plant has not yet been studied by a competent person and in a scientific manner. Its cultivation is still carried on in a most rudimentary manner according to primitive methods trusting exclusively to Nature for its germination and development. As soon as a more rational method is adopted for its planting and growing, and when the planters know better how to prepare and fix up the leaf, we shall see many Peruvian tobacco-fields producing a first-class article and this product figuring among the principal ones exported from Peru.

Up to the present date the total production of Peru is not over 900,000 kilograms of which about 150,000 are exported to the neighboring Republics of Bolivia, Chile and Brazil. It is worthy of note that in the export to Brazil preference is given to the Tobacco from Loreto, and to Bolivia to that of Jaen. The quality of this Tobacco is very superior and much better than is generally believed, and we feel sure that before long the native Tobacco will figure among the most valuable of our agricultural products.

Corn.—In the valley of Chancay is where the cultivation has reached the greatest development. The production in this region is calculated at more than 8,000 tons; for want of statistics we are unable to indicate the amount of the production in the remainder of the Coast zone and other regions, where Maize is grown, but it must be very large considering the great use made of this grain by the Indians from time immemorial, and the large quantity employed in the preparation of the "Chicha," which is the name given to the favorite beverage of the Indians.

Grapevine.—With exception of the valleys situated to the north of Chimbote, in all the other

valleys and ravines of the coast strip the grape-vine is cultivated with the object of producing wine and spirits. Of late years the cultivation has very much improved, and shoots or cuttings have been imported from Italy, France, United States, the Argentine Republic and Chile. The Principal varieties of the grapes are those called Italia, Albilla, Moscatel, Quebranta, Negar and Moyar. The "Italia" grape is very aromatic and has a very fine flavor, so that it is an excellent grape for the table. The spirits prepared from this grape are exquisite and much appreciated.

The pink "Italia" grape has also a rich perfume, although less than the white variety, and its aroma is different. If these two kinds of grape were to be exported to the United States they would meet with great acceptation. The Moscatel grape is also of excellent quality although inferior in aroma to the preceding varieties. The Moyar, Negra and Quebranta although different from each other, have not absolutely definite characteristics.

Generally the cultivation is from stocks or on bowers of limited height or else by allowing the vines to creep along the ground whenever the land in stony, and of uneven surface.

The principal centres of grape cultivation are in the valleys of the Departments of Lima, Ica, Arequipa, Moquegua and Tacna.

At the commencement of this chapter we made mention of the efforts of the Bureau of Fomento to promote the improvement of Agriculture in Peru; these efforts have been directed in a great measure to the cultivation of the vine, and to the employment of the grape in the preparation of wine and spirits.

We cannot assert that the vine-growing industry

is very much developed or advanced in Peru; but it is nevertheless a fact that in late years it has increased considerably.

In general the yield of the vine in Peru, even in the bad years, is much superior on an average to that obtained from its cultivation in Europe. The ordinary yield is 100 hectolitres of current wine for each hectare.

The total production of wines and spirits obtained exclusively from the grape, was during last year (1905) judging from the amount of the taxes collected, as follows: of wine 8,453,531 gallons and of spirits 343,398 gallons.

Coffee.—In Peru various kinds of Coffee are cultivated, but they are all of superior quality, and can compare favorably with the most famous produced in other countries, as the Peruvian Coffee possesses aroma, color and exquisite flavour.

In the three regions into which Peru is topographically divided, Coffee is produced with great success; but where its cultivation has acquired most importance is in the region of the highland districts. The best kind in the Coast zone is grown in Pacasmayo; around Huanuco, Chanchamayo and more especially in Carabaya; in the Sierra, or mountainous district the most famous is that of Choquisongo. The usual method of culture is 500 plants to each hectare and after the third year the yield from each Coffee plant is more than one pound.

The exports in 1905 reached 1028 tons. This quantity represents the excess of the production over the total native consumption, as Peru no longer imports Coffee of any class.

Cocoa.—Chocolate Bean—This valuable product is not yet cultivated in Peru to the vast extent

that it might be, both on account of the climate and of the immense expanse of lands adapted to its cultivation. In the province of Jaen and in the lower lands of the Departments of Amazonas and San Martin there are immense expanses specially suited to the growth and development of the Cocoa-tree. In the exuberant and extensive forests of the region in which the Cocoa-tree grows spontaneously, is where it is principally cultivated. That which grows in the provinces of the Department of Cuzco, where the temperature is warm and suitable, excels all other kinds produced in Peru, on account of its abundant greasy matter, and its exquisite taste and aroma. This cocoa is unknown outside of Peru, because all that is produced, with exception of small lots sent to Bolivia, is prepared and consumed in the country.

The extent of the Cocoa plantations in the Montana zone has increased considerably of late years, and today there is great enthusiasm for its cultivation in view of the excellent results obtained from its planting in the region of Chanchamayo with seed brought from Guayaquil.

We may state that this branch of agricultural industry, which might acquire an immense development in Peru, for the above mentioned reasons is still in its infancy.

Although all the Cacao consumed here is not produced in the country, a good deal is annually exported to Bolivia and Chile. The exports in 1905 amounted to 135,532 kilograms.

Valuable Wools.—Peru has the advantage of producing besides sheep's wool, that of the llama, the alpaca and the vicuna, the last of which is the most esteemed for its fineness. All these are most useful quadrupeds of the Auchenia family, especially the first mentioned, the llama, which

was the only beast of burden known to the Peruvians before the Conquest and before the Spaniards imported horses and asses into the country. From these animals there is obtained every year a considerable quantity of wool worth over £250,000; the female alpacas produce from 2½ to 3 kilograms of wool and the males from 3 to 4. The vicuna produces a much lesser quantity of wool; but as its kind is finer it commands better prices that that of the alpaca and llama. The weight of wool exported last year was 1,500,000 kilograms.

Hog Raising.—This industry is considered in Peru as one of the most lucrative as also the rearing of swine which is carried on in the valleys of Barranca, Supe, Huacho and Chancay where they are fattened with maize, lucern, sweet potatoes and barley. The principal object of the breeding and fattening of these animals is the production of lard. The amount of lard produced in Peru is slightly over a million kilograms according to data which deserve every credit. As this quantity proves insufficient for local use, the rest is imported yearly from the United States which fact explains why the fluctuation in the price of this article is generally contingent on the price quoted in American markets.

In the northern provinces of Puira and Lambayeque the rearing of goats has acquired considerable importance, for there grows in those parts a kind of pasture especially suitable to the growth and fattening of these animals. The fat obtained therefrom is used in making soap, etc., and the skins are almost entirely exported to the United States.

The race of Peruvian horses descends from the Arab stock, but notwithstanding the fact that there are several regions suitable to their rearing,



Getting Provisions in the Rubber Field



Massive Bridge near Arequipa



A Groupe of Llama Carriers in the Mountains

this has not been developed. On the coast alone there are to be found good specimens which are much esteemed and command high prices.

Mines and Mining.—If Nature has favored Peru with immense wealth and all kinds of natural resources she has been even more prodigal as regards mineral riches. If the fertility of Peru's soil is something extraordinary, if the vegetation is exuberant, if her "flora" is so varied and precious; no less rich is her geological formation, and so rich is this country on account of the abundance and great variety of its mineral deposits that no other country in the world can rival Peru on this point.

In fact in Peru there are mines of gold, silver, copper, lead, mercury, tin, bismuth, zinc, iron, cobalt, molybdenum, arsenic, wolfram, vanadium, antimony, mica manganese, aluminium, graphite, plumbago, potash, soda, silex, salts, sulphur, many kinds of coal, peat, asphalt, tar, petroleum, etc., etc.

The narrative of the discovery and working of the principal mining districts of the vast and opulent vice-royalty of Peru forms the most important and interesting chapter of the history of that period.

Moderate Taxes.—The regeneration of this great industry was started in 1876, by the establishment of The School of Mines, and the issuing of the law of 1877 which rendered the mining property perpetual and irrevocable, which the ancient ordinances did not concede, as their regime and restrictions were at variance with the principles sustained by the modern proceedings relative to the working of mines by means by powerful joint stock companies; a system of legislation still in force during the first years of our Independence.

The first mentioned measure served to spread

the technical knowledge absolutely necessary for the success of the mining operations, and the latter one, on establishing, as the only cause for the lapsing of a mining concession, the non-payment of the half-yearly contribution of 15 sols (7 dollars and a half) which the said law imposed upon each mining claim, granted to that property the fundamental basis of stability, absolutely indispensable for the development of any mining industry according to the present system of working by means of powerful enterprises formed by shares.

The Mining Code, which was promulgated on July 6, 1900, establishes that **any person may acquire mining properties,** with the number of claims **(pertenencias)** desired, from one to sixty. Apertenencia or claim, is the unit in mining properties and measures 200 meters by 200 meters, therefore covering an area of 40,000 square meters in the case of coal, petroleum, and of gold placers, platinum, tin, etc., but in all other class of mines the **pertenencia** only measures 200 meters by 100; that is, 20,000 square meters.

For every **pertenencia** the owner thereof must pay the Government a tax of fifteen soles each half year (that is, fifteen dollars American currency per annum.)

The administration of all questions pertaining to the mining industries rests with the Government, which is assisted by a Superior Mining Council and by **Delegaciones** and **Diputaciones,** appointed by the mining districts.

Article 39 of the Mining Code provides that foreigners may form part of the Diputaciones.

The Department of Encouragement and Public Works is the Executive Department, having control of all matters pertaining to mining; it is this Department that revises and grants all titles to

mines and where the records of all mining properties are kept.

Article 4 of the Mining Code of Peru.—The ownership of the mines is separate and distinct from that of the superficial land or surface. The ownership, possession and enjoyment of same are transferable in accordance with the general laws and special provisions of this code.

Article 5—Mining Property legally acquired is irrevocable and perpetual, same as in other property and the only special cause of forfeiture is failure to pay taxes referred to in Article 28 of this code.

Article 25—Every mining concession shall pay an annual tax of 30 soles ($15.00 gold) for every mining claim comprised in the perimeter thereof.

Article 28—The owner of a mine who fails to pay the semi-annual tax may do so during the following half year with a penalty of 50 per cent. He may likewise pay the said penalty in the following six months up to a month after the official date of the publication of the list of mines, in which it will appear as subject to denouncement, provided he shall also pay a penalty of 100 per cent., the tax accrued during the second half year and the tax of the third half year with or without the first penalty according to the date on which said payments are made. If the last term expires without said payments having been made the mine may be denounced. As long as no denouncement is made, the owner may recover it during the remainder of the said last half year by paying the tax accrued with the penalty of 100 per cent.

Mining Code.—The promulgation of the new Mining Code of Peru in January 1901, inspired by liberal ideas which harmonize with the wonderful modern advance in metallurgy and the working of

mines, gave new impulse to the development of mining. It is but just to attribute to this wise and liberal legislation the great advance made by Peruvian mining of late years. It is true, that the new code affords the greatest facility for acquiring mining property, the most ample liberty for working it, and the absolute security of its possession. These three great principles dictated by sound reason, constitute the triangular basis of the recent mining law, the beneficial influence of which is now felt.

Today the exercise of the mining industry is completely free without any distinction of nationality. The only contribution imposed upon it is the half-yearly one of 15 sols (7 dollars and a half) to which we have already alluded, and is that which gives the right, and guarantees the indefinite possession, as long as the said charge is punctually paid. Moreover a special law, issued in favor of those wishing to devote themselves to mining, under date of October 8th November 1890, lays down that until the year 1915 no new tax can be imposed on the mining industry nor on the export of its products.

Mining Register.—The Supreme Government, through the Bureau of Fomento, intervenes directly in the granting of mining concessions of all kinds. The aforesaid Bureau is charged with the formation of the General Register of Mines, which is the official one in which are inscribed or noted the name of the concessionaire and of the mining property.

The importation of machinery, as well as the fixtures and tools destined to mining, is exempt from the payment of Custom-House duties; so also are coal, timber, dynamite, quicksilver and all

the materials necessary for the construction and working of the railroads.

Official Corps of Mining Engineers.—Finally, care has been taken to complete this important series of measures, by the creation in 1902 of the Corps of Mining Engineers, the prinicpal object of which is to assist the development of the mining industry in Peru by the extension of its sphere of action through the examination and exploration by commissions appointed by that body, of new mining regions; and by the description of their geological formation together with the magnitude of their mineral wealth, so that these facts may come to the knowledge of private indivduals and lead to the profitable exploitation of those regions.

The results of these important labors published in special bulletins, illustrated with photographs and plans are widely distributed.

As might be expected, in view of the immense mineral resources of Peru, the mining industry backed up by this liberal regime, has attained during the past year an important development.

In Peru the same evolution has commenced as has taken place in Mexico, and which in that Republic has contributed in such a wonderful manner to the development of its mining industry. We refer to the influx and participation of North-American capital in the exploitation of mines.

American Mining Companies.—There are already many mining enterprises formed with American capital, and there are many others now being organized. We only mention the Cerro de Pasco Mining Co. and the Inca Mining Co. and the Peruvian Gold Mining Corporation of Toledo, Ohio. This last company has been recently organized and controls an immense group of placer mines, situated in the Nosiniscato River beds in the Province of Quis-

picanchi Department of Cusco. The corps of Mining Engineers of Peru having recently completed and published in its bulletins of Mines, that this district contains an average of £37,500,000, ($182,-250,000) of gold dust.

Peru is, above everything else, a mining country. The variety and great proverbial richness of its minerals are a byword, and have made it famous since its discovery. There is no mineral of value that is not to be found in some part of its extensive territory.

Richest Mineral Provinces.—Today, of all the Peruvian gold regions, the Provinces of Sandia and Carabaya, in the Department of Puno, in Southeastern Peru, are the ones that attract the greatest attention. These provinces have become famous for their aluvial gold, which is usually found in small grains and nuggets. And within the last few years several important mining properties have been established therein with most satisfactory results. Among these properties may be mentioned the now famous Santo Domingo mine, owned by the Inca Mining Company, an American enterprise. Veins, or lodes, of gold-bearing quartz are frequently found, notably on the Santa and Chucuicara rivers, near the port of Chimbote, and also in the Macate district. But the mineral wealth of Peru is not solely confined to these precious metals, as there are fortunes awaiting the enterprising capitalist and prospector in other fields, such as petroleum, bituminous and anthracite coal, sulphur, borax, mercury, salt, cobalt, iron, lead, etc., etc. The coal fields of Peru are yet undeveloped; they are vast and extend both east and west of the great Cordillera of the Andes. Some of the finest anthracite coal is to be found near the port of Chimbote, while in the vicinity of Cerro de Pasco

and in Hualgayoc the coal measures are both large and of good quality. Petroleum constitutes today the fuel for nearly all the Peruvian railroads and industries. This valuable product is found in great quantities in the Northern Department of Piura, along the coast, and is being worked by native and foreign companies with considerable success.

Precious Stones.—Although no precious stones are at present mined in Peru, it is an established fact, according to Prescott and other historians, that the ancient Peruvians knew their value and used emeralds and rubies in their richer garments and ornaments.

Mineral District, Huaraz—In addition to the railroads I have described, which will be constructed by the government, a concession has been granted to an English corporation to build a line a distance of 200 miles from from the port of Chimbote over the mountains to the town of Huaraz, capitol of one of the northern provinces, which is the center of a rich mineral region with large deposits of copper, silver and coal. An American syndicate has recently obtained a concession and has deposited a forfeit of $60,000 for the extension of the present railway from Payta to the Maranon, one of the largest branches of the Amazon. This proposed line will cross both ranges of the Andes and open up an agricultural country and vast rubber forests and was surveyed by the German engineer the man most familiar with the interior of Peru, Mr. George von Hassel.

Ample Funds on Hand.—Nearly all these railways have been in contemplation for many years, but the government has never had the money to build them. It is now possible to do so. Eighteen

millions of dollars in gold are at the disposal of the minister of public works for this purpose; the preliminary surveys have been made, and before the end of the year it is believed that the work of construction will be in progress.

"Our country has never offered the advantages that are to be found in Peru today. Here it is possible for the poorest man to carve out for himself a future and robust farmers can develop the ground and in a few years make an independent fortune for themselves."

Rich Placers.—The prospector and miner can pan out as much as twenty dollars a day steadily from the vast gold fields. I have known of miners that have averaged $160 a week.

Gold.—In the counter-forts of the western Cordillera near to the coast, gold is found in lodes of ferruginous quartz and in the same form in the rest of the Andean region, generally accompanied with other metals, such as silver and copper; it is also found in the form of nuggets or dust in the alluvial deposits and in the sand brought down by the mountain streams during the freshets.

The Inca Gold Development Corporation of Peru, lately organized in London, England, owns the concession to dredge the River Inanbari and tributaries and is now having a dredge put up in Peru. This will be the first dredge placed in the country and is the same that has produced such excellent results in Australia, New Zealand and California.

The Peruvian Gold Mining Corporation, lately formed in Toledo, Ohio, will also place several dredges on their property in the province of Quispicanchi, in the celebrated gold fields lately discovered by engineer Hilficker in the Nosiniscato district. Regarding this District, the Govern-



Exterior of the Post Office. This building contains a magnificent court yard and is surrounded by extensive offices



A Plaza at Callao, Peru

ment of Peru, through its Department of Mining Engineers, has recently made a thorough investigation and research in the Province of Quispicanchi, giving a full history of the gold findings from ancient times to date. They report that in 1902, the Hilfiker, Gotusso and Vannoni expedition, thoroughly explored the Nosiniscato and Huaylumbe Valleys finding the average of gold was four dollars gold per cubic yard. The report made to the Government by its engineers stated that they had arrived at an approximate valuation of the Valley of the Nosiniscato and they figure the placers to contain a gross amount of $182,250,000 worth of gold dust.

The Indians in order to pick out the gold formed on the strands and on the beds of those rivers made a sort of pavement of flat stones placed in the same direction as the current, so that the gold carried along by the water would by its own weight fall into the interstices between the stones, and they afterwards picked it out when the dry season set in. An example of this curious mode of proceeding still exists in the neighborhood of the town of Ayahuaya, and thus we have an explanation of the saying so common among the aborigines that **"in Peru one can sow stones and harvest gold."**

Gold-bearing quartz is to be found in many of the Departments of Peru, and it is also found in combination with other metals and in a native state.

On the flanks of these rivers, generally of siluric slate, auriferous lodes are also frequently found.

In fact one may say that in each of the Departments into which the national territory is divided, seams of gold exist.

On the coast the zones richest in gold are those

of Nazca and Camana; in the Andean region those of Huanuco, Aymaraes, Cotabamba, Pataz and Quispicanchi, an in the Montana those of Sandia and Carabaya that of the Maranon, and several others.

New Claims.—During the first six months of the present year (1906) there have been inscribed 1972 claims, as follows: 181 of gold, 137 of silver, 253 of copper, 287 of coal, 265 of silver and copper, 6 of gold and silver, 230 of sulphur, 60 of nickel, 60 of coal and vanadium, besides 493 of petroleum; which makes the total number of claims today 10,421.

If we were to form an opinion of the mining production of Peru simply from the perusal of the figures appearing in the above table, we should arrive at a completely erroneous conclusion, as there are many important negotiations, commenced during the present year (1906) the returns of which might very well appear in the Statistics of 1905. Moreover, so great is the movement and enthusiasm that has invaded the whole country for undertaking mining negotiations, that that number of petitions have been presented, and are constantly being sent in asking for the adjudication of mines and mining property, and this is one of the precursory signs of the development of the mining industry in the country. For instance the new exploitations of copper ores are very numerous, so much so, that we do not hesitate to affirm that Peru as a copper producing country is on eve of taking up one of the principal posts among the nations exporting this metal which is constantly becoming more and more used in various industries.

Silver.—Is found in every part of the Andean region, and without exaggeration one may state that there is not a defile in the whole of this

region in which veins of silver, more or less rich, are not to be found. The lodes of this metal are rarely met with containing it alone, as it is generally found mixed with lead or copper, and frequently with both. Among the different silver-bearing ores of Peru must be mentioned that known in this country by the name of "cascajo"—or rocky ore—which has no metallic brightness and is of a red colour owing to the oxide of iron which it contains. This peculiar silver ore, together with copper ores, forms the main deposit of the mining district of Cerro de Pasco.

In many places it is found in a native state, and the deposits are of extreme richness. The greatest silver deposits known are at Cerro de Pasco, Yauli, Caylloma, Hualgayoc, Recuay and Castrovirreyna. Copper mining is comparatively a new industry in Peru, as not until the depreciation of silver did miners turn their attention to copper, when it was found that it existed in paying quantities in the great silver districts. Within the last few years the copper mines have produced enormous quantities of ores, and modern smelting works have been established at several of the more important centers.

Copper.—The quantity of rich copper ores disseminated throughout the whole territory of the Republic is very considerable not only in the usual form but also in special combinations. The veins actually of copper, contain this metal with a small proportion of silver and traces of gold; veins of this class are abundant on the Coast (Chimbote, Ica and Lomas). The arsenical and antimonial sulphurets are found in great abundance in the Andean region, and are at the present time the object of considerable exploitation in the mining centers of Cerro de Pasco and Yauli; their

exploitation has also been commenced in other centres, equally rich and important, such as Conchucos, Ica and Puno. Up to the present time the most considerable depostit of copper, both on account of its richness and abundance, is found in the historical mineral deposit of Cerro de Pasco, situated on the knot formed by the eastern and western Cordillera of the Andes at the bottom of a hollow, or basin, surrounded by hills of no great elevation. This deposit is a vast accumulation of copper, silver, gold and lead ores, with various other ones on a lesser scale, among these vanadium.

Mr. Clark of Boston, Hirsh, the banker and several American capitalists have recently invested in Peru, several hundred thousand dollars for options on copper properties. Over thirty million dollars has been spent by Americans on mining property in Peru alone. The Cerro de Paso Mining Company having spent over seven million dollars for its railroad and its mines and has purchased copper mines in the Yauli District to the value of millions of dollars.

Mr. Haggin has just purchased copper mines from Messrs. Pflucker, in the District of Morrochio, and it is understood that he paid for them in a single check of $600,000, drawn on the bank of Germany at Lima. The copper fields of Peru are beyond calculation and will furnish the market in the future with immense quantities of the raw material.

Capacity.—As an example, the great American Smelting Establishment, alone, of Cerro de Pasco, has succeeded in producing more or less 40 tons of copper ore in every 24 hours, which means an annual production of 15,000 tons.

Smelters.—The smelting works lately put up

at Ancachs, Pisco and other places, the returns of which did not come intime to appear in the statistics of 1905, will contribute greatly to the increase of the production of copper ore in Peru. The existence of large and rich beds of copper, lately examined, as for instance those of Huaylay, Quiruvilca, Apaicancha, Cachi-Cachi, etc., have turned out to be of great importance, and we need not hesitate in affirming that within the next three or four years the shipments of Copper from Peru will be near upon 50,000 tons so that before long the production of copper in this country will only be inferior to that of the United States and of Mexico.

The same thing occurs with regard to the production of Coal. By means of the recent practical experiments in the coal-producing regions already being exploited, it has been possible to prove the existence of large beds of betuminous and anthracite coal. At present from the coal beds of Goillarisquisga alone, which are those that provide fuel for the smelters of Cerro de Passo, 500 tons of coal are daily extracted.

Copper Regions.—Cerro de Pasco and Yauli are the two best known copper regions of Peru, but others are known to exist, as the ores of Peru are always found in various combinations with different metals.

Gold, which constituted the great wealth of the nation before the conquest by Pizarro, was not mined to very great extent by the Spanish conquerors who, for some reason, gave all their attention to silver mining. For this extraordinary reason the gold mines from whence the native Incas derived their fabulous wealth have remained more or less abandoned for three centuries, and it is only

now that there is a revival in this once most lucrative industry.

Vanadium.—The Llona family own the only vanadium mines in the world, and situated in Peru, which are now being exploited by Pittsburgh capitalists.

Lead.—Lead ores are abundant in Peru, principally in the form of argentiferous galena. The most noted veins are those in Yauli, Huarochiri, Chilet, Pallasca, Huari, Recuay and Canas.

Quicksilver.—The center of the quicksilver deposits in Peru would seem to be the Department of Huancavelica, where is situated the famous and historical mine "Santa Barbara," which was worked in the Colonial period and furnished then large quantities of quicksilver, thereby facilitating to the miners of that time the amalgamation of their silver ores and the making of large remittances of silver to Spain.

The fact is, that at 30 miles round about the above mentioned mine of "Santa Barbara," and in every direction, are found beds of Cinnabar which runs parallel to those of sandstone and limestone, extending for a considerable distance. The talented Peruvian naturalist, don Mariano Eduardo de Rivero, in his interesting report upon this mining district, gives a list of 39 hills situated in the surroundings of that of "Santa Barbara" in which he found veins of Cinnabar. The existance of the same kind of rocks has been proved, on the south, as far as Puno, and on the north, as far as the province of Huamalies in the Department of Huanuco. In fact Cinnabar has been worked near to Yauli, in the Chanta mine, situated at 21 miles from Huallanca, the vein of which runs for several leagues constantly in a direction from North to South. Cinnabar has also been found in the province of Cangallo, in the Department of

Ayacucho and in the Santa Polonia hill near to Cajamarca.

Iron.—This mineral is very plentiful in Peru, but hitherto it has not been the object of industrial exploitation. There are considerable deposits of this metal in the Department of Piura, as well as in that of Puno, and in the districts of Calca and Lares, where beds are found with a grade of 80 per cent.

Nickel.—Is abundant in the district of San Miguel, in the province of La Mar.

Sulphuret of Zinc.—Is found in every part of the mining regions of Peru, under different forms and colors.

Bismuth—Veins of Bismuth are found in various parts of the Peruvian territory. In the Department of Junin a bed of Bismuth-Ochre has been discovered with a grade of 40 per cent. of Bismuth.

Mica.—It is only recently that in the Province of Camana on the coast in the Department of Piura, important deposits of Mica have been found.

Salt.—Is abundant in all the different zones of Peru, and appears in all its various forms. The dryness of the atmosphere on the coast, has permitted the formation of different salts, such as nitrates, carbonates and sulphates of soda, magnesia, alunogen, etc., etc.

Petroleum.—Is found in Piura, in the neighborhood of the town of Chimbote, in the Calavaras hill of the province of Casma and in the district of Palpa, province of Ica. In the district of Pusi, in the province of Huancane, Department of Puno, there are vast deposits of Petroleum, as has been lately shown by the perforations made there. In Cuzco there exists the spring of Pocpquella, situated near the estate called Pallpata. There are also signs of Tar and Petroleum in the Depart-

ments of Jauja and Huancavelcia; but up to the present time the petroleum beds of real importance are those situated in Piura, Tumbes and Pusi, which are also the only ones so far thoroughly examined.

As far as regards Petroleum, it has also been rendered evident by the wells lately bored, and by the discovery of new petroleum beds in the south of the national territory, that Peru possesses an immense store of this valuable combustible.

What we have already said with regard to Copper, Coal and Petroleum we might also state relative to each one of the mineralized substances found in the sub-soil of Peru.

Finally the metallurgical establishments working in the country are 89; of these 19 are for amalgamation and 32 for lixiviation; 23 are for smelting, 5 for concentration and 7 for mixed operation—smelting, concentration or lixiviation. There are also 2 Petroleum refineries and one sulphur refinery. The number of persons employed in these establishments and in the working of the mines, according to information likewise obtained by the Corps of Mining Engineers, is more or less 13,000.

The exploitation of mines in Peru in accordance with modern methods, is now only beginning to attract the attention of native and foreign capitalists, and for this reason if one were to form an idea of the future importance of mining in Peru by the actual results, we should arrive at completely erroneous conclusions and would not form a correct iden of the splendid future in store for this industry in Peru.

According to a report published by the Department of State of Peru, 1905, the provinces of Carabaya and Sandia in the Department of Puno and in the provinces of Quispicanchi and



BRIDGE OVER THE HIGHEST R. R. IN THE WORLD—OROYA R. R.



THE GREAT SMELTING WORKS—CERRO DE PASCO MINING COMPANY.

in Cuzco will surprise the world with its wonderful rich gold deposits to be found in Peru. Nearly all the rivers in these places carry gold.

The famous English traveler, Sir. Martin Conway, declared, referring to these zones that he found rivers with so much gold in sight that they are formidable competitors of the Transvaal, Alaska and Australia. He estimated that in the province of Sandia there was to be found 290 gold deposits, and a great number of deposits were to be found in the province of Carbaya.

This is the report of all famous engineers and mine experts who have examined these vast gold regions. The same authority states that in the Department of Poto there exists an immense deposit of auriferous sand which measures 25 kilometers long and 20 kilometers wide, whose depth is unknown. The part that has been examined shows 300 meters of gold lands without reaching bed-rock. In all parts of these vast deposits examinations have been made and there has been found 60 cents per cu. meter. It is calculated that this century will have passed long before these grounds have been exhausted of their gold.

Regarding gold quartz, lately examined in the famous district of Montebello, as much as 66 oz. of gold has been found per ton average.

Coal.—Peru also possesses vast beds of coal, which certainly are of equal importance to those of Silver and Gold. In fact all the representatives of the Anthraconites are found here, viz: Anthracite, Pit-coal, Lignite and Peat. The first variety is found on the road from Chimbote to Huaraz, in the provinces of Otuzco, Huamachuco and various other localities. Anthracite pit-coal in the Departments of Cajamarca, Ancachs, Junin, Arequipa, Puno and Moquegua. In Cuzco we have the coal-

beds of Tonquini, which contain trunks of trees perfectly carbonized.

Lignite.—is found in the Department of Puno and in that of Loreto on the shores of the river Ucayali.

Coal Mines.—Toledo capitalists in connection with the Boston people are negotiating for some valuable copper properties and some coal fields that are said by a London engineer to be better than the anthracite of Pennsylvania.

It is the only coal between the Isthmus of Panama and Southern Chile, and is needed by steamship lines along the coast. The opening of the canal will give it even greater value, and the Peruvian government will use a portion of the new loan to open up that territory.

It is also proposed to build about a hundred miles of road from Ilo to Moquega through a rich agricultural valley, where the soil is especially adapted to vineyards.

Wages.—The average sum paid for wages to the miners, who are the Indians inhabiting the mountainous districts of Peru, is for the labourer 60 to 90 cents per day, for the driller 1 sol, to 1 sol 20 cents, and for boys 40 cents. Some of the drillers work not only for daily wages but by contract, and in this case the price is generally 15 sols per metre bored, earning by this means 2 sols to 2.50 daily, and sometimes even more, when the conditions are specially favorable.

Good Laborers.—It must be borne in mind that in the Peruvian mines work is carried on both by day and night, so that the miner earns as much as much as 9 days a week, because with the exception of short intervals of rest which he devotes to the chewing of Coca, he keeps up his strength and works for 36 consecutive hours, he then rests for

12, and afterwards returns to his labor for another 36 hours, and thus successively during the two or three months for which he has agreed to work, as the greater part of the Indians who work in the mines, and who reside in the tablelands, own small properties which they cultivate during a part of the year, and live on their crops of maize and potatoes, so that the wages they earn enable them to obtain the few manufactured articles indispensable for their families.

The native miner is strong, respectful and accustomed to climate at great altitudes; he is an excellent laborer, whom it is almost impossible to replace, so that he constitutes a very powerful element for the development of the mining industry in Peru, which has a vast and immense future before it.

Finally there exists in Peru an abundance of Alabasters, Porphyries, and Marbles of every class, as well as Jaspers which rival those used by the ancient Romans in their temples and palaces. There is also plenty of Gypsum, Kaolin, Ochre and other similar products which in accordance with the Mining Code are the exclusive property of the owner of the soil.

It would in fact be difficult to point out the mineral, or mineralized substance, that is not to be found in Peruvian territory.

Factory Opportunities.—Peru always offers a vast field for the fostering of different manufacturing industries, because in very few countries in the world is there produced a greater variety of raw material than in this Republic.

The textile industry is the one which has obtained the firmest footing.

The raw material—cotton and wool—is produced in abundance, and from the remotest times,

although in a very rudimentary form, ordinary stuffs of wool and cotton have been woven in the country.

The first modern looms, introduced into Peru for the weaving of cotton goods, were imported during the year 1874, and those for woolen goods in 1861.

Manufacturers.—In recent years a considerable amount of native capital has been invested in the erection of manufacturing establishments and factories; and we say native capital, because up to the present time almost every foreigner, European or North American, arriving in this country and settling in it, has preferred to devote himself to the construction or railways and to the mining industry, notwithstanding that the progressive governments of Peru, which of late years have ruled the destinies of the country, have done everything possible, to stimulate the progress of the manufacturing industry offering every concession that it was possible to grant within the sphere of their attributes.

Water Power.—Powerful water-falls are abundant in the Cordillera of the Andes, and their western streams are formed of a series of rivers and brooks which come down from a height to the Pacific Ocean; all of these can be used for the provision of a large amount of motive power, in the same manner as the eastern streams.

Woolen Goods.—As regards the manufactories of woolen goods there only exist four in the whole country. The most modern one is that built in the town of Marangani, Department of Cuzco; but the most important one is that existing in Lima, called the "Santa Catalina National Manufactory of woolen-stuffs." Its usual production is over

200,000 metres annually between cashmeres and cloths for the use of the army.

The Silk Goods Industry.—This industry is still in its commencement. In Lima there is a small establishment in which the government has started a practical school of sericulture. There is also another similar establishment in the Department of Abancay.

Manufacture of Paper.—There is in Lima only one paper-mill which limits its production to ordinary and to brown paper.

Match Factories.—Two of these exist in the neighborhood of Lima; the most important one was founded under an arrangement with the Match Company of Chicago.

There are also various Soap and Candle Manufactories in different parts of Peru.

Boot and Shoe Making is almost all done by hand, and this trade still preserves its individual character. Latterly however a native Boot and Shoe Manufactory has been established.

Flour Mills.—Under protection of the differential duties there are several flour mills in Peru; as in the coast region, as already stated, wheat is grown, and that produced in the plains of the Andean region on being carried to the coast would, on account of the imperfect means of transport, come out far too dear. The greater part of the wheat now imported, comes from Australia and California. Some of these mills, as for instance that of the "Santa Rosa Company," near to Callao, have modern machinery, with all the most perfected apparatus for producing excellent flour.

The manufacture of Vermicelli, Macaroni, Spaghetti and other wheat pastes has attained an immense development in Lima.

Lard Manufactory.—This is one of the oldest in-

dustries in Peru. In the valleys of Pativilca, Barranca, Supe, Huaura, Chancay and Pasamayo large quantities of maize are grown for the purpose of fattening hogs. The number of these slaughtered annually for the production of lard is not less than 30,000. As the yearly consumption of this article in Peru is about 5000 tons, the balance necessary for the supply of the local demand is imported from the United States.

Preserved Fruits.—Notwithstanding the excellent quality and the abundance of several fruits in some regions, nothing has yet been done towards implanting the industry of preserved fruits, etc., which would not require any great labor, as all the necessary elements exist in the country at low prices. The absence of rain on the coast section, the peculiary excellent climate and the great fertility of the land, favor especially the cultivation of fruits, the varieties and first class quality of which are notorious. Nothing either is done in the way of putting up in tins the vegetables, the fish and shell-fish so abundant on the coast of Peru.

Tanneries.—The establishments for tanning hides are numerous; but although this industry is a sufficiently old one it has not attained in Peru to the perfection, which it has reached in other countries.

Wines, Spirits, Etc.—The manufacturing of Wines and Spirits under the protection of the heavy protective duties, has acquired a large development; the production of grape wines reaches as much as 13,000,000 litres. The elaboration of grape spirits is also considerable. Artificial wines are only produced in small quantity as the natural article is sold at a low price; the artificial production of spirits is on a larger scale. There are

several establishments devoted to this branch of the industry, the most important among these being "La Concordia" which occupies very extensive premises. Today all kinds of liquors are concocted in Lima and Callao and they are palmed off on the public, well-bottled and with luxurious and attractive labels.

Chocolate Manufactories.—The transformation of Cacao into blocks of Chocolate has led to the installation of various manufactories in Lima, and as all the Cacao produced in the country is not sufficient for the demand, a fair amount is annually imported from Guayaquil. All these factories have first-class machinery and employ as their motive power either steam or electricity.

Manufactories of Cotton Seed Oil.—Just as the cultivation of the Sugar Cane to such a vast extent has led to the erection of important Sugar works for the production of that article, so the increase in the cultivation of Cotton has in its turn contributed to enlarge the number of plants or works for the extraction of oil from the Cotton-seeds. In Lima we have several of these factories, and others have been established in the various centres in which the cultivation of Cotton has acquired importance. The model central factory, Esquivel, situated in the valley of Chancay is the most perfect and important.

This oil is chiefly used for lighting purposes in the mining districts; the lees are used in the manufacture of Soap, and from the residue, pressed into the form of an oily mass, is obtained the oil-cake exported chiefly to the United Kingdom.

Cocaine Manufactories.—This new and essentially Peruvian industry has acquired considerable development of late years. There are now in Peru 23 manufactories, some of which are estab-

lished in the neighborhood of the zones in which the Coca-plant is cultivated. The total annual production of Cocaine reaches 70,000 kilograms and it may be said that the production of Peru satisfies the world's demand for the article.

Chemical Industries.—This great branch of modern industry is almost unexploited in Peru. Besides the cocaine, the benzine obtained from the manufacture of kerosene, the ammonia which is produced by the elaboration of coal-gas, the medicines and specifics prepared from Peruvian plants, nothing is done in this branch. There are many articles which might be produced in Peru at low cost, among them sulphuric acid which is an article for which the demand is constantly increasing. The production of varnishes, dyes, etc., etc., as the alcohol of 40 degrees only costs 5 cents gold per litre, is an industry that might be undertaken with good results.

Various Industries.—As is natural there exists in Peru, and principally in Lima, various other industries which we may denominate as "urban" or "domestic," such as the Saw-mills, and those for making all kinds of wooden utensils, like casks or wine-vats, etc., etc. Furniture making has made important progress, although for want of roads and cheap means of transport no use is as yet made of the splendid timber for cabinet work, that is so plentiful in the forest region. In Lima there are also two broom and brush manufactories in which the raw material employed in the straw of the "Sorghum" plant, which is cultivated in the neighborhood, and of which the grain is also used as food for animals.

In the neighborhood there is also a large manufactory called "La Ceramica," which possesses modern machinery for producing all kinds of ce-



A View of the Oil Wells at Tumbes, Peru



General View of a Progressive Mining District in Peru

ment flagstones, piping, balustrades, pitchers, urns, ornaments, etc., etc. There are also various brick-kilns, and among them one called the "Basilica," in which high-pressure steam is employed.

The existing industries might be improved and their sphere much enlarged. Others, such as the industry of iron and steel, have not yet been started, but having for their base some of the many raw materials abundantly produced in the country, there are many that would leave a good result to the capitalists starting them and would become new and powerful sources of national wealth.

Special Opportunities. There is needed in Peru very much a fruit factory for canning and preserving fruits. Sugar, which is produced in immense quantities is very cheap. There are a variety of fruits in the country, which can be canned profitably. There is a fortune to be made in this line by those who understand the business.

Peru has imported lard from the United States for many years. It has natural facilities for raising pork in large quantities. Corn can be produced without any trouble, and it is a fact that any one who establishes himself in this country being familiar with hogs can in a little while earn quite a fortune in raising hogs for lard.

There are excellent opportunities in vineyards. Considerable wine is made now in Peru of excellent quality, but the affair is in its infancy. Those, who understand vine culture and wine making can make quite a good thing out of it in this country.

There are also great opportunities for Pottery Works, and Tube Works for sewers. There are great chances also for brick factories in Peru.

Chemical Products of different kinds are all imported. As an example, it may be stated that immense quantities of sulphur are found in this

country and it is possible to establish a factory of sulphuric acid, an article used very extensively in this country, and which is now imported. Nothing is done in the manufacture of benzine nor ammonia, articles which could be manufactured in this country at a good profit. Alchohol being very cheap, about five cents a liter, it is possible to manufacture varnishes, paints and dyes at little cost. All these things are very easily manufactured, require very little capital and should be made very profitable.

Another industry which can be established in this country at great profit is the manufacture of Portland Cement. There is every thing necessary for the manufacture of cement in Peru near the coast in accessible regions south of Lima.

It is very strange that there is no factory in Peru to manufacture cotton stockings for men, women and children. In the United States, small machines are manufactured, which are used by families to make stockings. Such a machine could be introduced into Peru with great profit.

The Fishing Industry is new in Peru and would pay handsomely to any one who would take it up in a business manner. Numerous fish are found all along the coast in immense quantities, which could be canned or salted.

There is an excellent opportunity for a glass factory in Lima. Everything necessary is found in the country, sand of excellent quality and carbonates of soda exist in abundance.

Textile Plants.—The culture of Ramie, Jute, Agave and others, extraction of the fibre, and the manufacture of articles therefrom, such as cloth, bags, rope and cordage, mats, nets, etc., etc.

Steam Ploughs.—There are as yet very few in the country, and there are possibilities of large

profits to be obtained from their introduction and the making of contracts with the farmers for the ploughing and preparation of their lands generally.

Light, Portable Trains.—In all the agricultural and mining centres these trains could be introduced to replace the mules now in use.

Dairy Farming.—There is room for great improvement in this industry, and for all its several branches, by the establishment of modern dairies with improved machinery. Skimming stations, centrifugal separators, cheese and butter factories are more or less unknown, and are greatly wanted; their establishment would be very profitable.

Wines and Spirits.—Viticulture is prosperous, and the vineyards of Peru are of rare quality. The production of wines and Aguardiente is rapidly extending throughout the coast valleys by reason of high protective tariff. A handsome fortune can be made from this source in four to five years. Modern and improved methods, and the best labor, are all that is required.

Skin Dressing.—This is a growing industry and one that can be extended rapidly, both by reason of the superior quality of the native skins and hides and of the protective tariff. All sorts of leather goods can be manufactured in the country, and, therefore, there is a good opening for the introduction of proper machinery.

The principal markets are Callo, Lima, Trujillo and Arequipa, and the principal establishments at Lima are Labrousse, Bretoneche, Freres, Truel, Gotuzzo Bros., Montserrat & Limoncillo, Ferrari, Alavena and Centenaro, owned by French and Italians.

Other Various Industries.—We append a list of some industries that could be established in the country with no great difficulty and with prospects

of good results, because in each instance the prime materials of manufacture are procurable while the consumption of the manufactured articles encourage and warrant it:

CHEMICAL PRODUCTS.

Pottery and Chinaware
Glassware.
Nails.
Sericulture.
Brushes
Canning and Preserving.

EXTRACTS FROM THE PERUVIAN CUSTOM TARIFF.

Section 1.—Cotton Goods. Almost all goods manufactured of cotton pay a duty of 40 per cent. on the gross weight. This includes, carpets, cretons, curtains, damask cloth, embroidered cottons, handkerchiefs, all sorts, plain or embroidered, neck ties, stockings, skirts, shades, table cloths, threads, ribbons, velvet.

Section 2.—Woolens. This includes carpets, cashmere cloth, colored cloth, embroideries, elastic cloth made of wool, embroideries of silk, fringes, mantles, satin of all sorts, with or without cotton or silk thread, socks, stocks, threads, ribbons, etc. All this class pays 40 per cent. net or gross weight according to method of packing.

Section 3.—Linen Goods. Carpets, cloths of all sorts made of linen, cloth of linen for cleaning purposes, drill plain or colored, bed spreads, handkerchiefs, embroidered or plain, mantles of linen, skirts, suits, embroidered stockings, sheets, thread, velvet, etc. The above goods pay 40 per cent.

Section 4.—Silk Goods. Curtains, cloth of all sorts, capes, coverings of all sorts, elastic, embroidered silks of all sorts, including those embroidered of gold or silver, handkerchiefs, orna-



A SUGAR PLANTATION.

The cane grows and is crushed all the year round. A field for profitable investment with modern methods and improved machinery



Statue of San Martin. Note that the street boys are as well dressed as those of any city in the states.

ments ,ribbons, stockings, silk in spools, silk of all sorts, ties, etc. These goods pay duty of 40 per cent. gross or net weight.

Section 5.—Furniture and Covered Articles. Beds, blouses, boots of all sorts, baby carriages, chairs or spring seats, freight cars, gentlemen's clothes, ready made of all sorts, harnesses, leather, mattresses, manufactured leather, made dresses, ornaments of all sorts whether for churches, or otherwise, railway cars, saddles, street cars, small wagons, trunks of wood, wrappers, wheel barrows, valises. All these pay duty of 45 per cent. according to quantity shipped whether single or by the dozen.

Section 6.—Hardware and Diverse Articles. This includes everything such as hardware, silver ware, needles, lamps, etc., 40 per cent. either each or by the dozen according to the article. Baskets, lamps, musical instruments of all sorts, such as violin, guitar. Pocket books—pay 40 per cent. Nails, ornaments of all sorts—40 per cent. Groceries average about 65 per cent. Ordinary soap—65 per cent. Articles for the public service, articles to be used for shipping and marine services, machinery to be used solely for the purpose of agriculture, all sorts of machines for the purpose of mines including steam pumps are admitted free.

For further information regarding special articles, the duty, methods of shipment, packing, etc., address Dr. A. de Clairmont, Consul of Peru for the State of Ohio, at Toledo, or the Peruvian Consul in any other place.

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